TOSHIBA

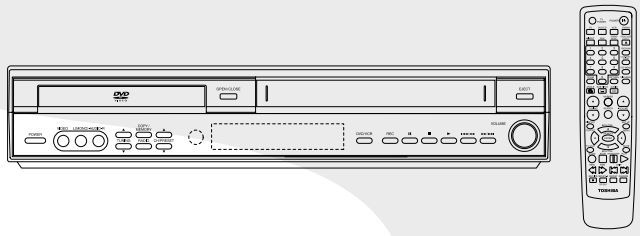
FILE NO. 810-200425

CIRCUIT DIAGRAMS

DVD VIDEO · COMPACT disc DIGITAL VIDEO · COMPACT disc DIGITAL AUDIO · DIGITAL dts SURROUND · DOLBY DIGITAL PRO LOGIC II · 3D Surround Sound · Designed for Windows Media · VHS Hi-Fi SQPB

DVD/VCR
Home Theater System

SD-V55HTSU
SD-V55HTSC



MAY, 2004 Ⓛ

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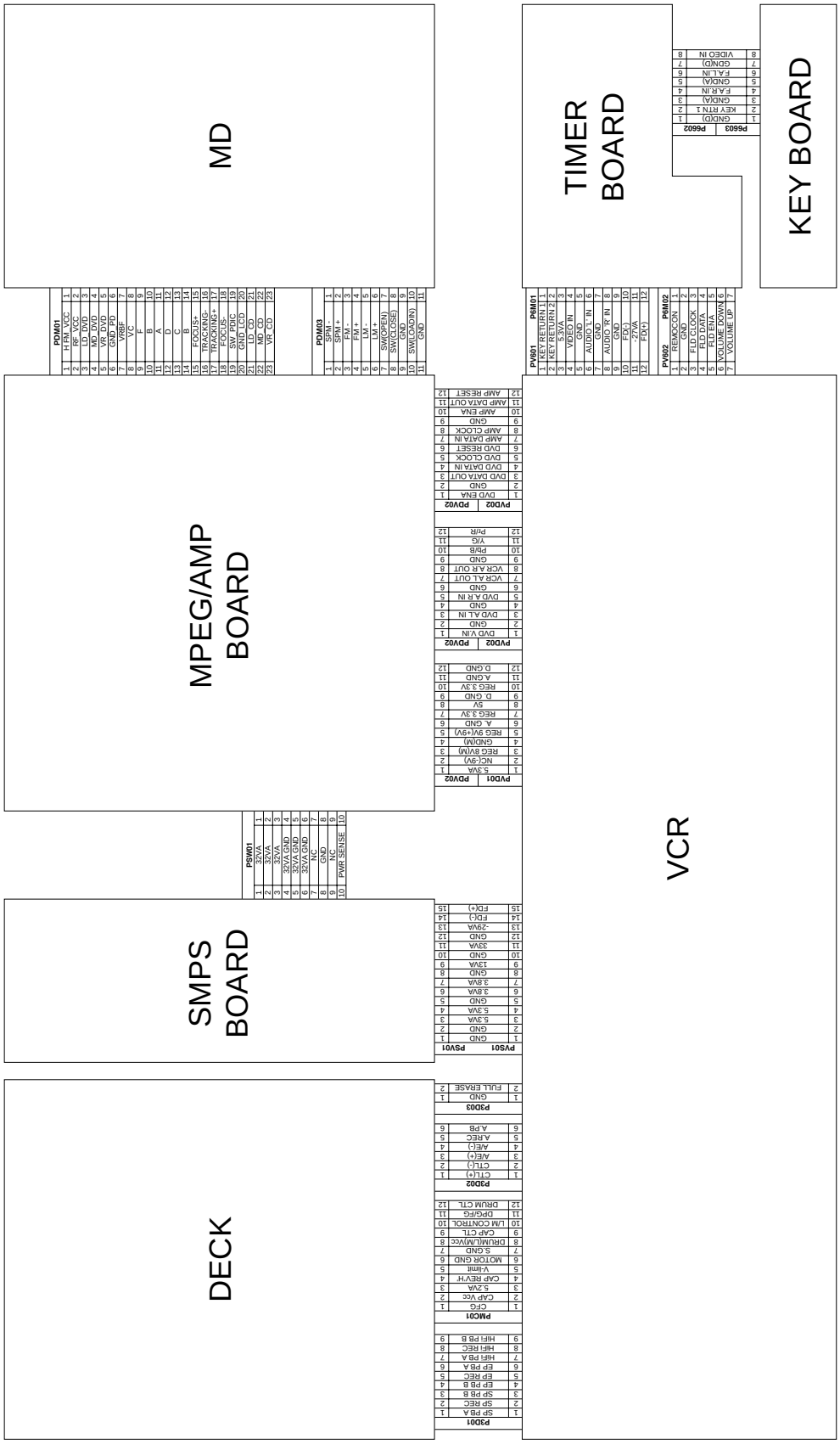
OVERALL WIRING DIAGRAM



VCR PART
ELECTRICAL ADJUSTMENT PROCEDURES

1. Servo Adjustment

1) PG Adjustment

• Test Equipment
  a) OSCILLOSCOPE
  b) NTSC MODEL : NTSC SP TEST TAPE

• Adjustment And Specification

MODE	MEASUREMENT POINT	ADJUSTMENT POINT	SPECIFICATION
PLAY	V.Out H/SW(W373, W374)	R/C TRK JIG KEY	6.5 ± 0.5H

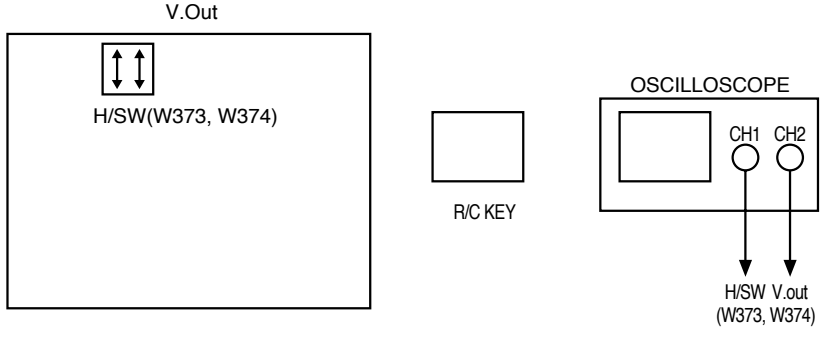
• Adjustment Procedure

a) Insert the SP Test Tape and play.
b) Press the “O” key on the Remote controller and the “PLAY” key on the Front Panel the same time, the unit then goes in to Tracking initial mode.
c) Trigger the mixed Combo Video Signal of CH2 to the CH1 H/SW(W373, W374), and then check the distance (time difference), which is from the selected A(B) Head point of the H/SW(W373, W374) signal to the starting point of the vertical synchronized signal, to 6.5H ± 0.5H (412μs, 1H=63μs).
  Note - Press FRONT CH UP KEY and FRONT PLAY KEY on Deck playback, and it goes in to ATR PRESET. after the SP Test Tape is inserted.

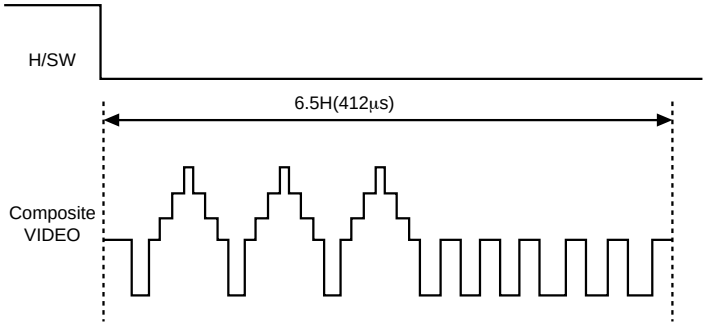
• PG Adjustment Method

a-1) Playback the SP standard tape
b-2) Press the “O” key on the Remote controller and the “PLAY” key on the Front Panel the same time, Tracking initial mode.
c-3) Repeat the above step(No.b-2), the unit will then finish the PG adjusting automatically.
d-4) Stop the playback, the unit then exits PG adjusting mode after saving the PG data.

• CONNECTION



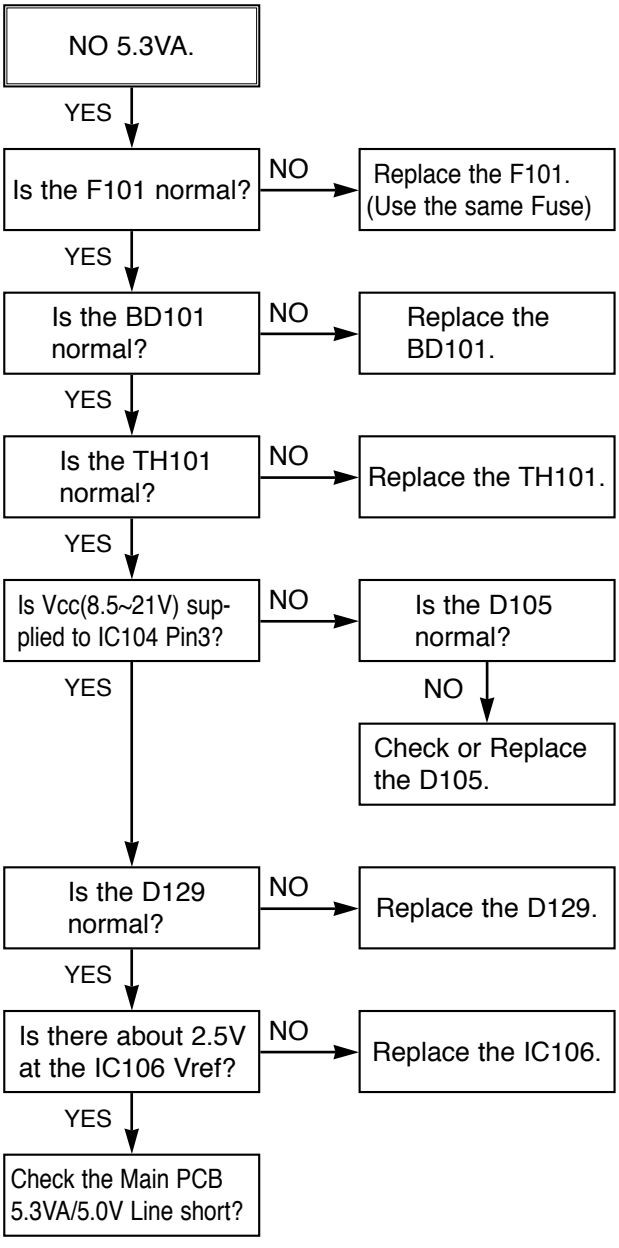
• WAVEFORM



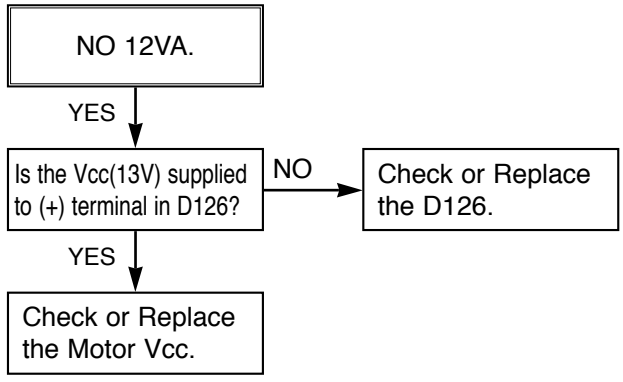
ELECTRICAL TROUBLESHOOTING GUIDE

1. Power(SMPS) CIRCUIT

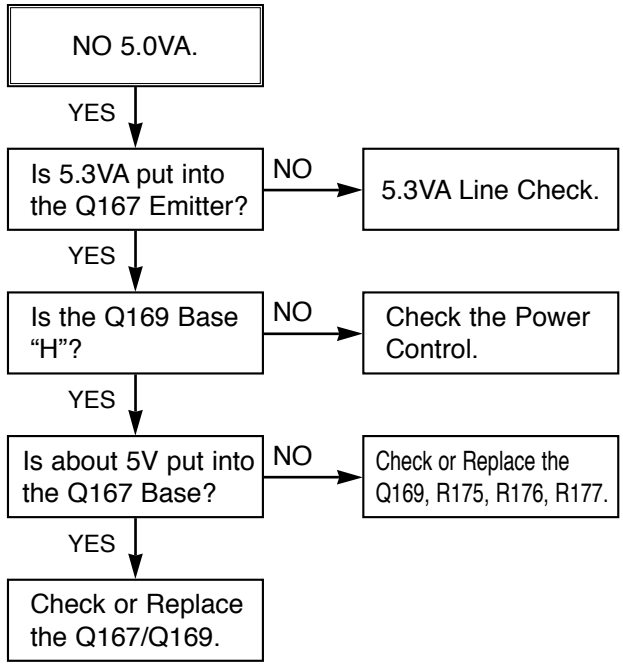
(1) No 5.3VA (SYS/Hi-Fi/TUNER)



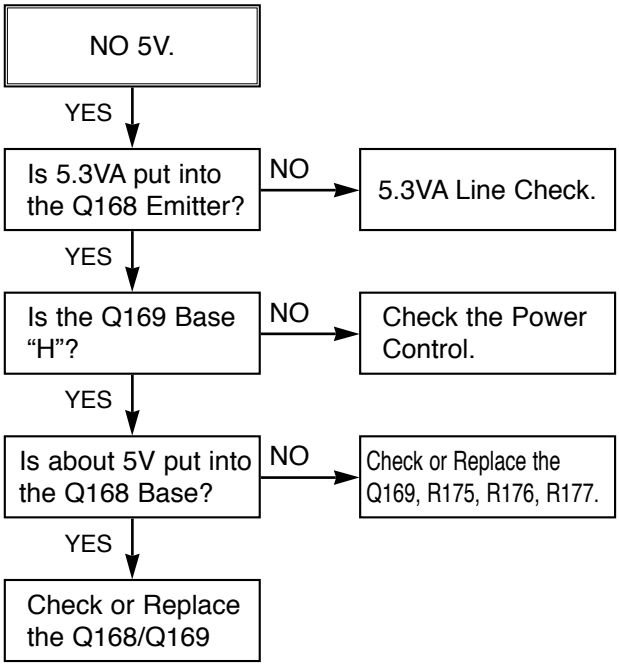
(2) No 12VA (TO CAP, DRUM MOTOR)



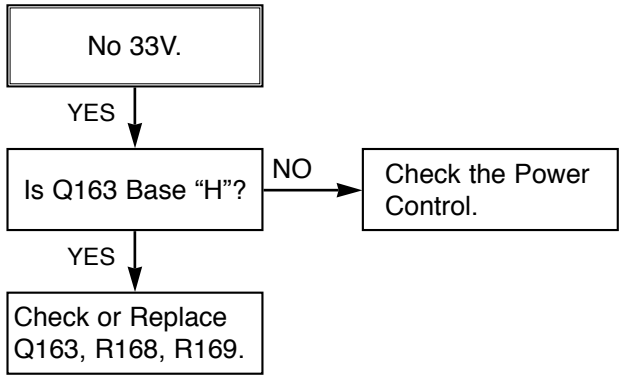
(3) No 5.0V (SYS/Hi-Fi/TUNER)



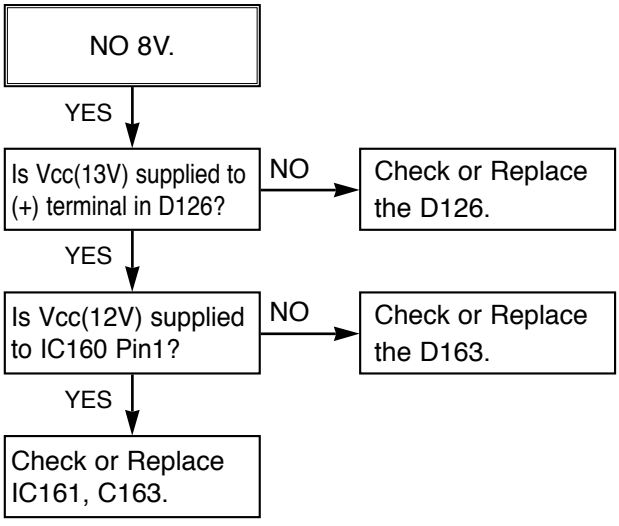
(4) No 5V (TO DVD)



(5) No 33V (TUNER)

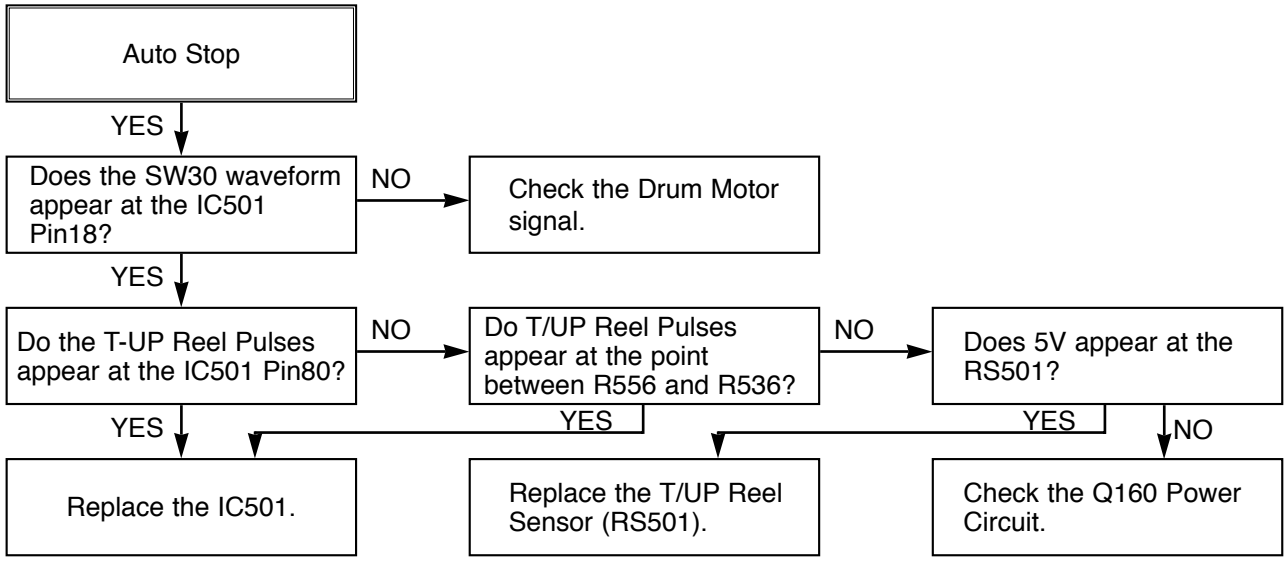


(6) No 8V(TO DVD)

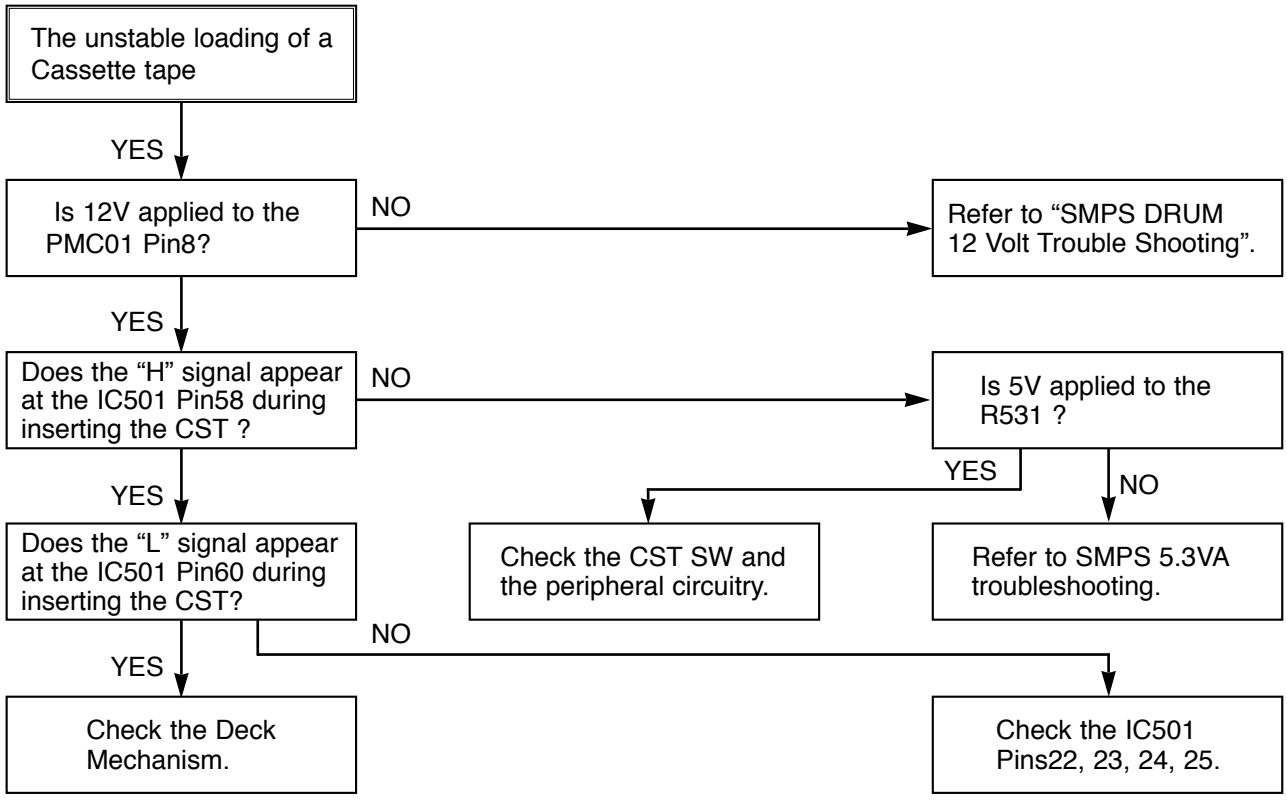


2. SYSTEM/KEY CIRCUIT

(1) AUTO STOP



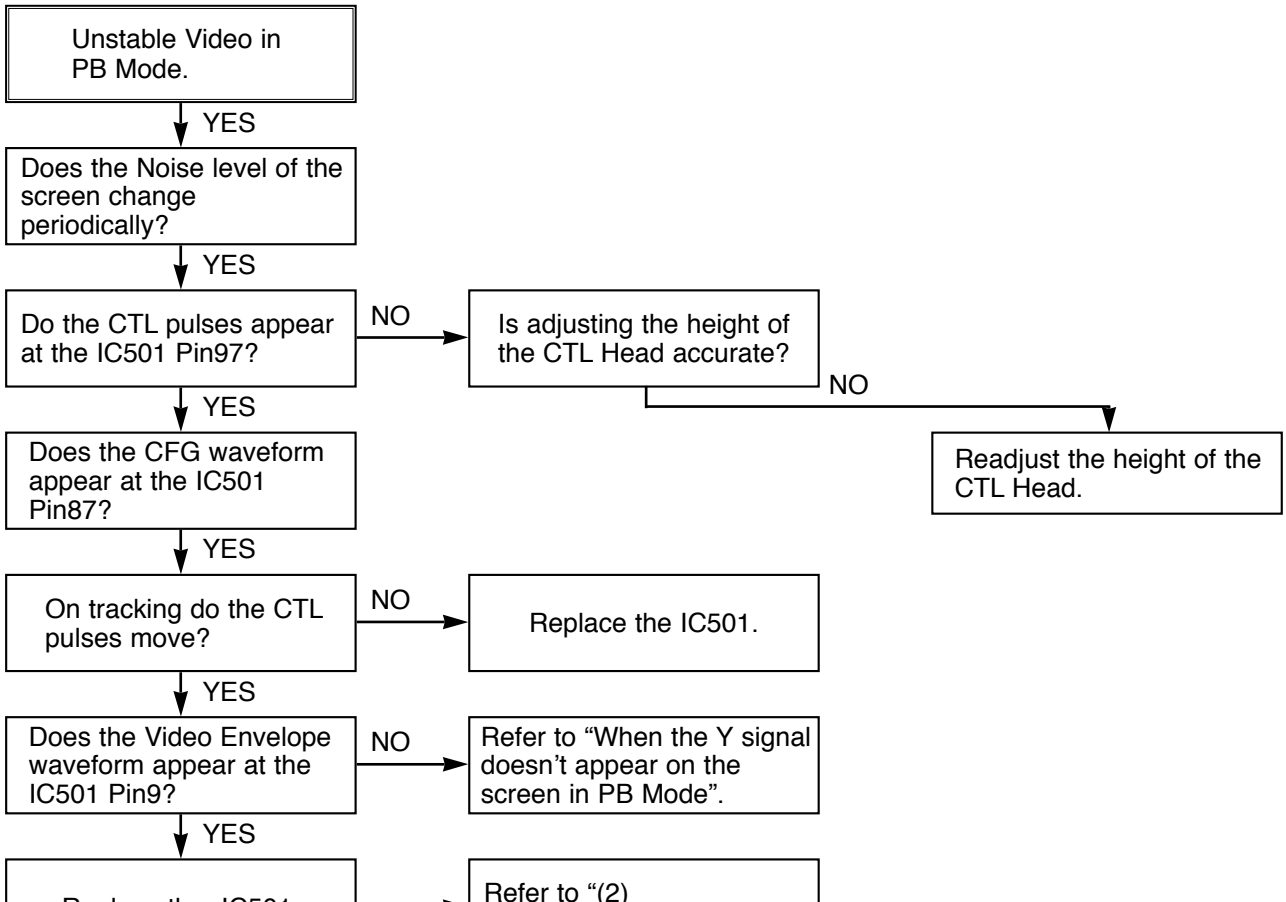
(2) The unstable loading of a Cassette tape


The unstable loading of a Cassette tape
YES
Is 12V applied to the PMC01 Pin8?
NO
Refer to “SMPS DRUM 12 Volt Trouble Shooting”.
YES
Does the “H” signal appear at the IC501 Pin58 during inserting the CST ?
NO
Is 5V applied to the R531 ?
YES
NO
YES
Does the “L” signal appear at the IC501 Pin60 during inserting the CST?
Check the CST SW and the peripheral circuitry.
Refer to SMPS 5.3VA troubleshooting.
NO
YES
Check the Deck Mechanism.
Check the IC501 Pins22, 23, 24, 25.

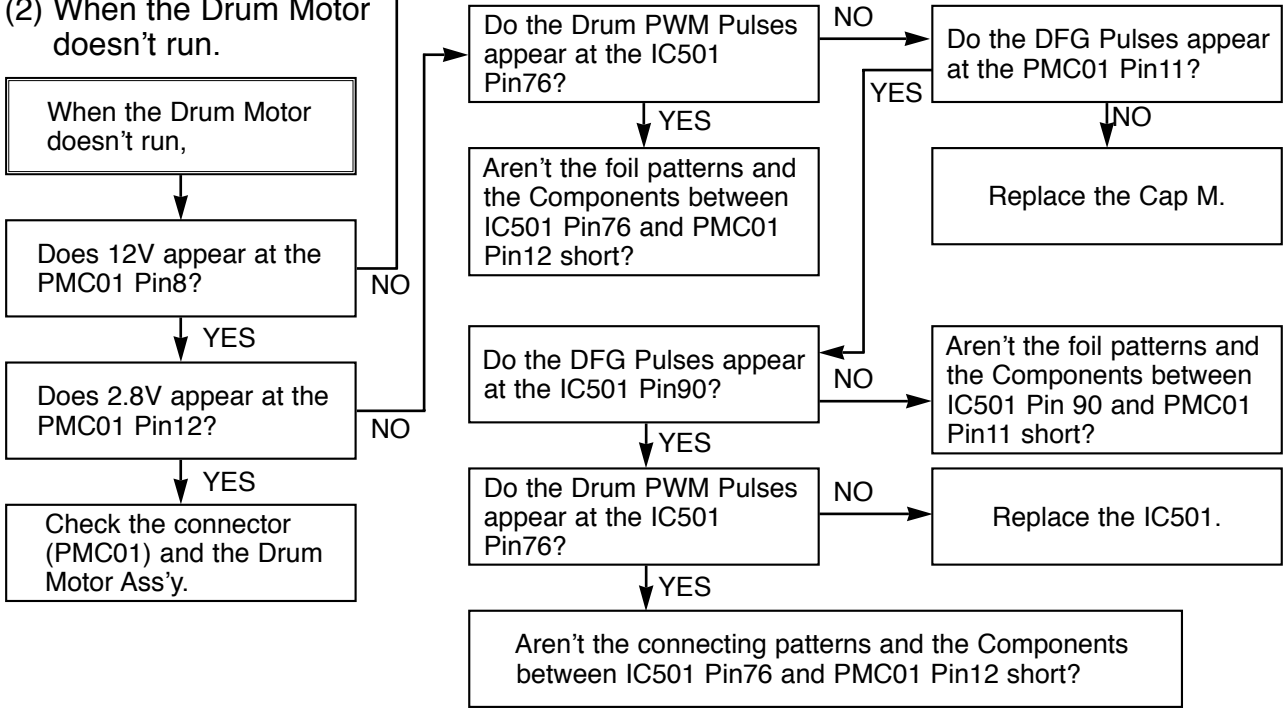
Caution : Auto stop can occur because Grease or Oil has dried up

3. SERVO CIRCUIT

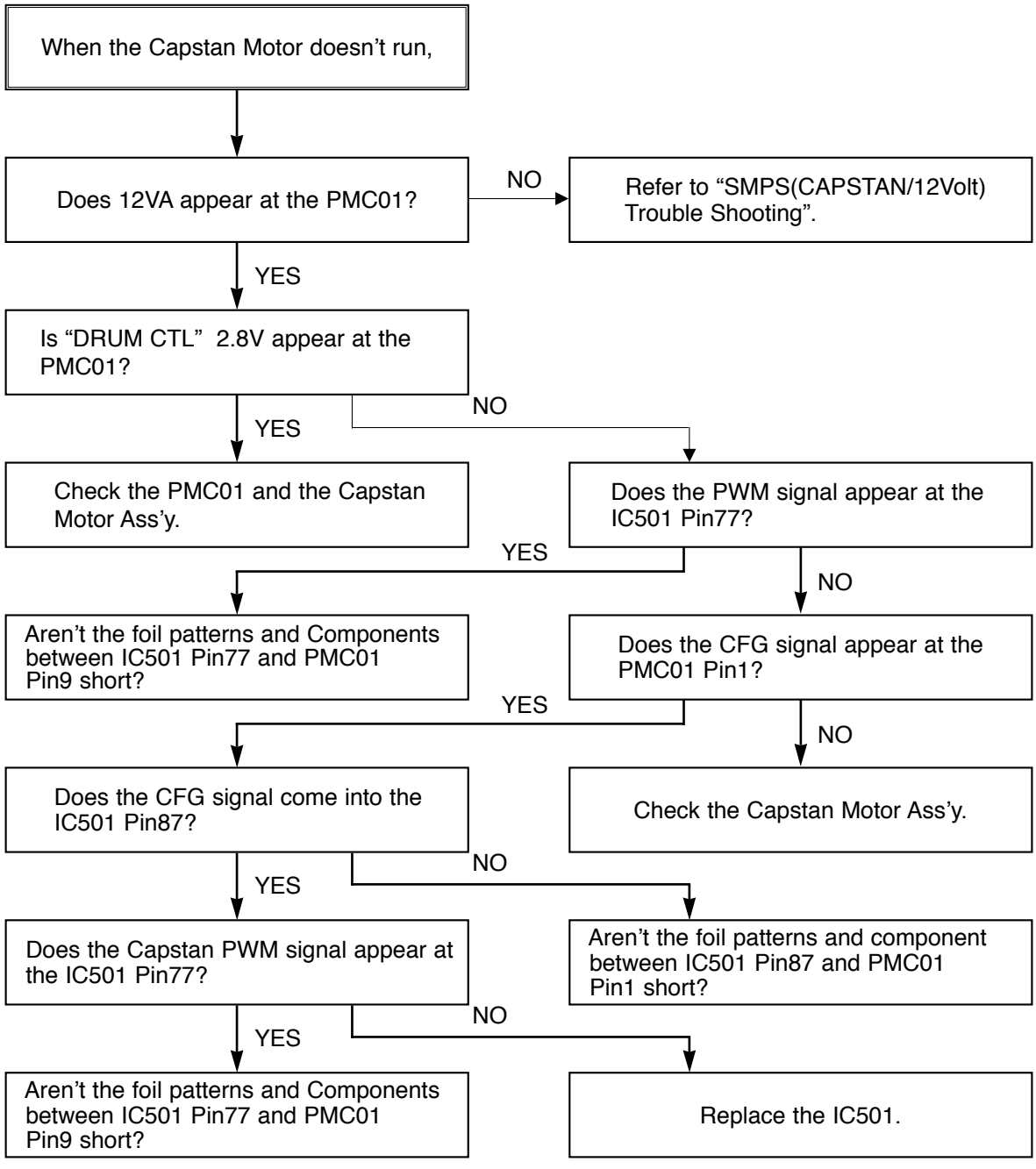
(1) Unstable Video in PB MODE


Unstable Video in PB Mode.
YES
Does the Noise level of the screen change periodically?
YES
Do the CTL pulses appear at the IC501 Pin97?
NO
Is adjusting the height of the CTL Head accurate?
NO
Readjust the height of the CTL Head.
YES
Does the CFG waveform appear at the IC501 Pin87?
YES
On tracking do the CTL pulses move?
NO
Replace the IC501.
YES
Does the Video Envelope waveform appear at the IC501 Pin9?
NO
Refer to "When the Y signal doesn't appear on the screen in PB Mode".
YES
Replace the IC501.

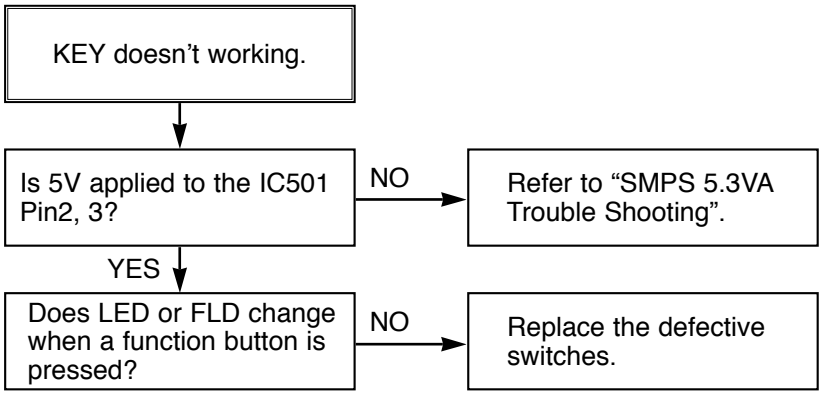
(2) When the Drum Motor doesn't run.


When the Drum Motor doesn't run,
Does 12V appear at the PMC01 Pin8?
NO
Refer to "(2) No 12VA of Power section"
YES
Does 2.8V appear at the PMC01 Pin12?
NO
Do the Drum PWM Pulses appear at the IC501 Pin76?
NO
Do the DFG Pulses appear at the PMC01 Pin11?
YES
NO
YES
Aren't the foil patterns and the Components between IC501 Pin76 and PMC01 Pin12 short?
Replace the Cap M.
YES
Check the connector (PMC01) and the Drum Motor Ass'y.
Do the DFG Pulses appear at the IC501 Pin90?
NO
Aren't the foil patterns and the Components between IC501 Pin 90 and PMC01 Pin11 short?
YES
Do the Drum PWM Pulses appear at the IC501 Pin76?
NO
Replace the IC501.
YES
Aren't the connecting patterns and the Components between IC501 Pin76 and PMC01 Pin12 short?

(3) When the Capstan Motor doesn't run,

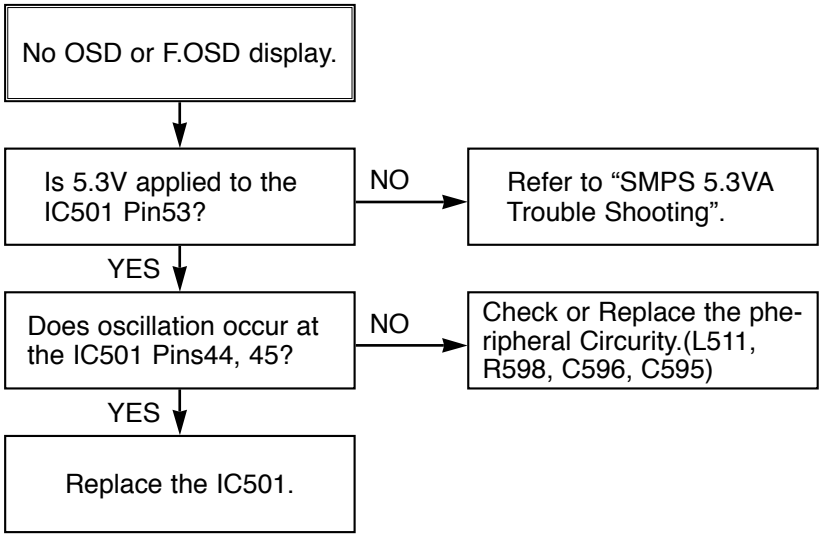

When the Capstan Motor doesn't run,
Does 12VA appear at the PMC01?
NO
Refer to "SMPS(CAPSTAN/12Volt) Trouble Shooting".
YES
Is "DRUM CTL" 2.8V appear at the PMC01?
NO
YES
Check the PMC01 and the Capstan Motor Ass'y.
Does the PWM signal appear at the IC501 Pin77?
YES
NO
Aren't the foil patterns and Components between IC501 Pin77 and PMC01 Pin9 short?
Does the CFG signal appear at the PMC01 Pin1?
YES
NO
Does the CFG signal come into the IC501 Pin87?
Check the Capstan Motor Ass'y.
NO
YES
Does the Capstan PWM signal appear at the IC501 Pin77?
Aren't the foil patterns and component between IC501 Pin87 and PMC01 Pin1 short?
NO
YES
Aren't the foil patterns and Components between IC501 Pin77 and PMC01 Pin9 short?
Replace the IC501.

(4) KEY doesn't working

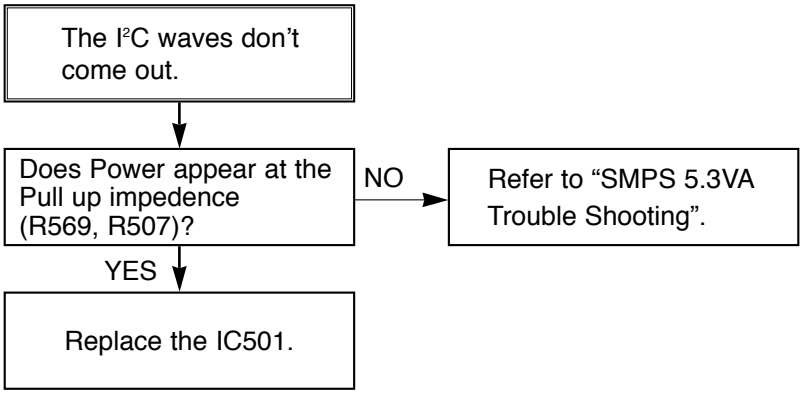

KEY doesn't working.
Is 5V applied to the IC501 Pin2, 3?
NO
Refer to "SMPS 5.3VA Trouble Shooting".
YES
Does LED or FLD change when a function button is pressed?
NO
Replace the defective switches.

4. OSD CIRCUIT

(1) No OSD display.

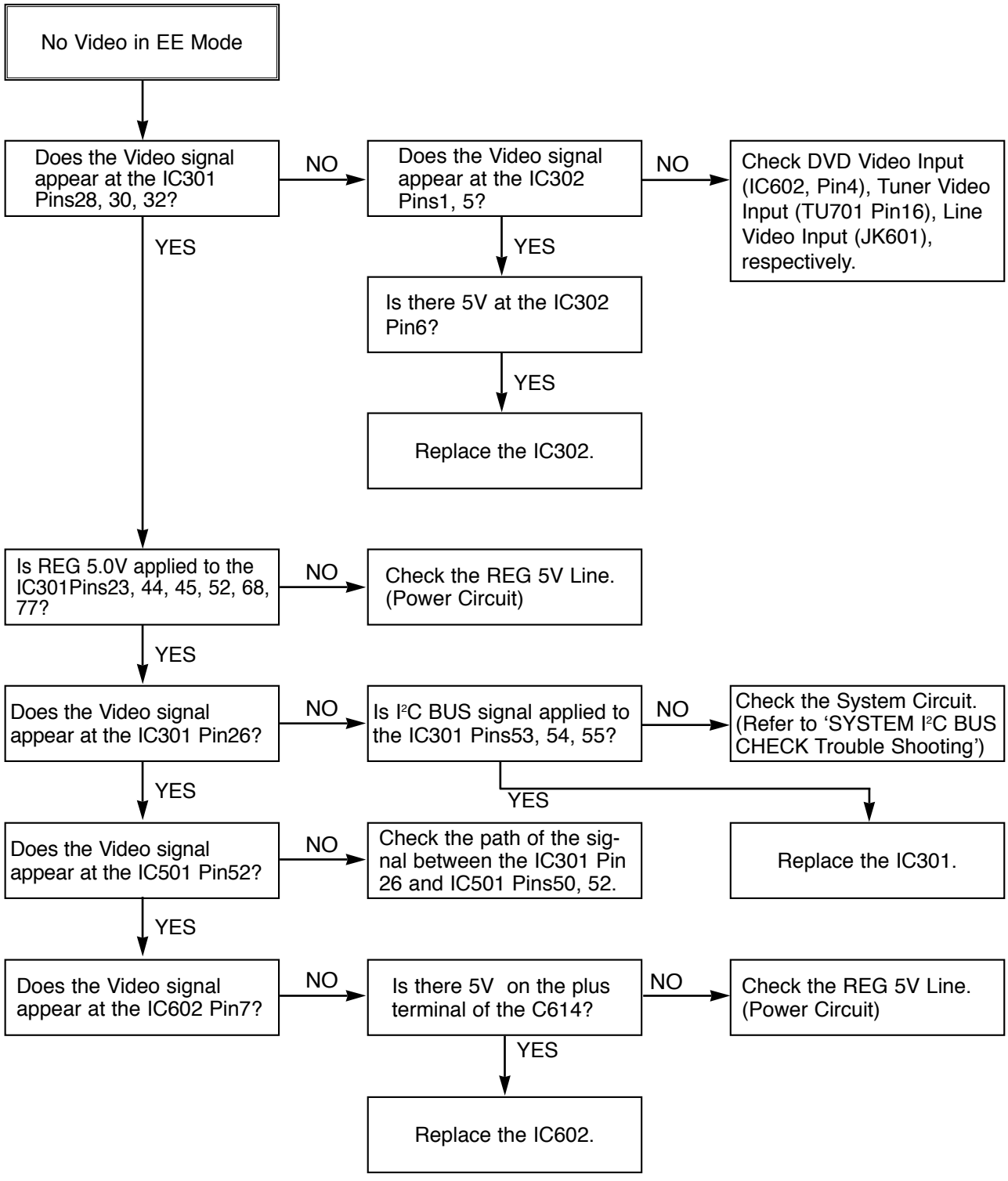

No OSD or F.OSD display.
Is 5.3V applied to the IC501 Pin53?
NO
Refer to "SMPS 5.3VA Trouble Shooting".
YES
Does oscillation occur at the IC501 Pins44, 45?
NO
Check or Replace the pheripheral Circurity.(L511, R598, C596, C595)
YES
Replace the IC501.

(2) I^2C BUS CHECK

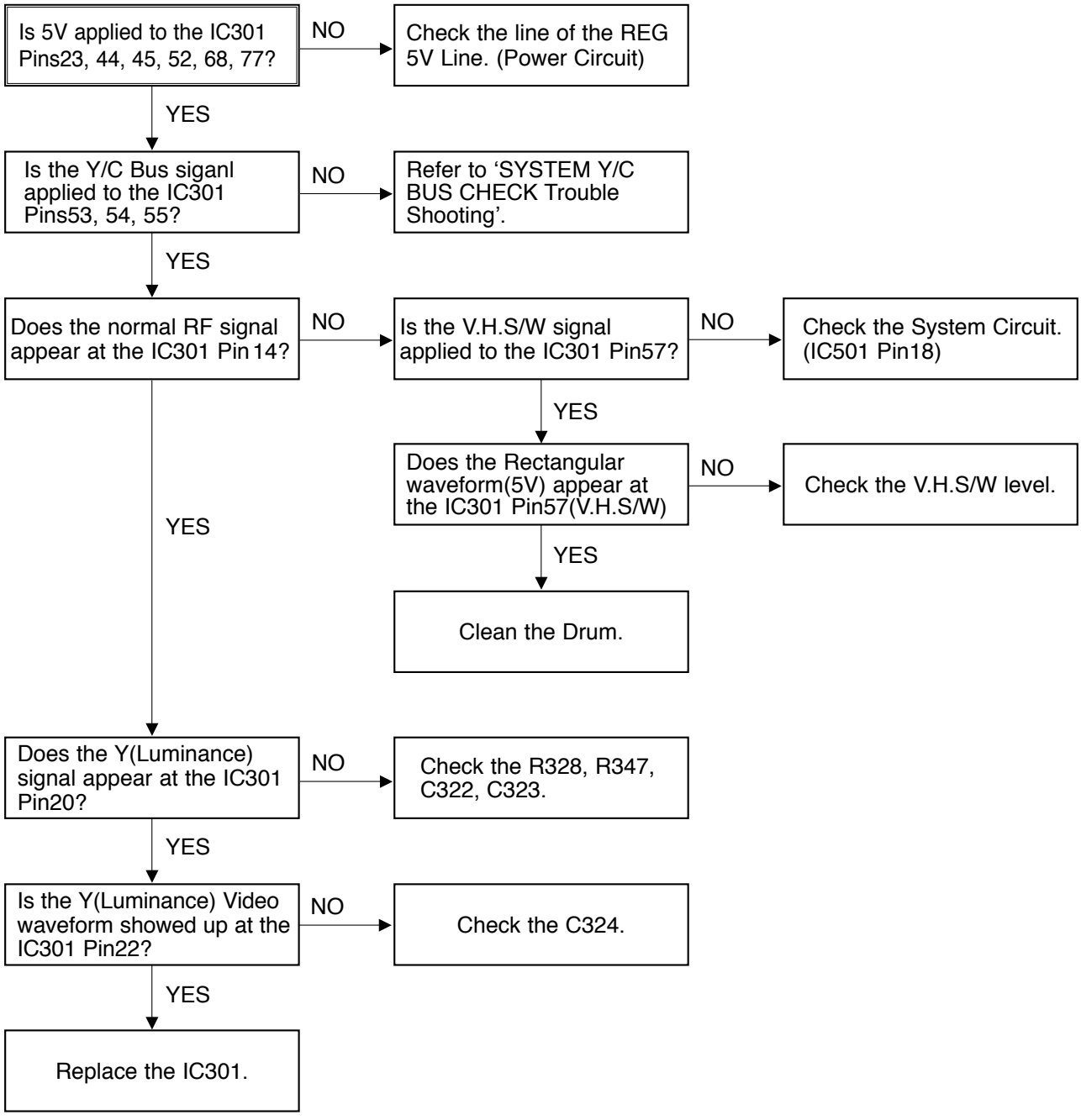

The I²C waves don't come out.
Does Power appear at the Pull up impedence (R569, R507)?
NO
Refer to "SMPS 5.3VA Trouble Shooting".
YES
Replace the IC501.

5. Y/C CIRCUIT

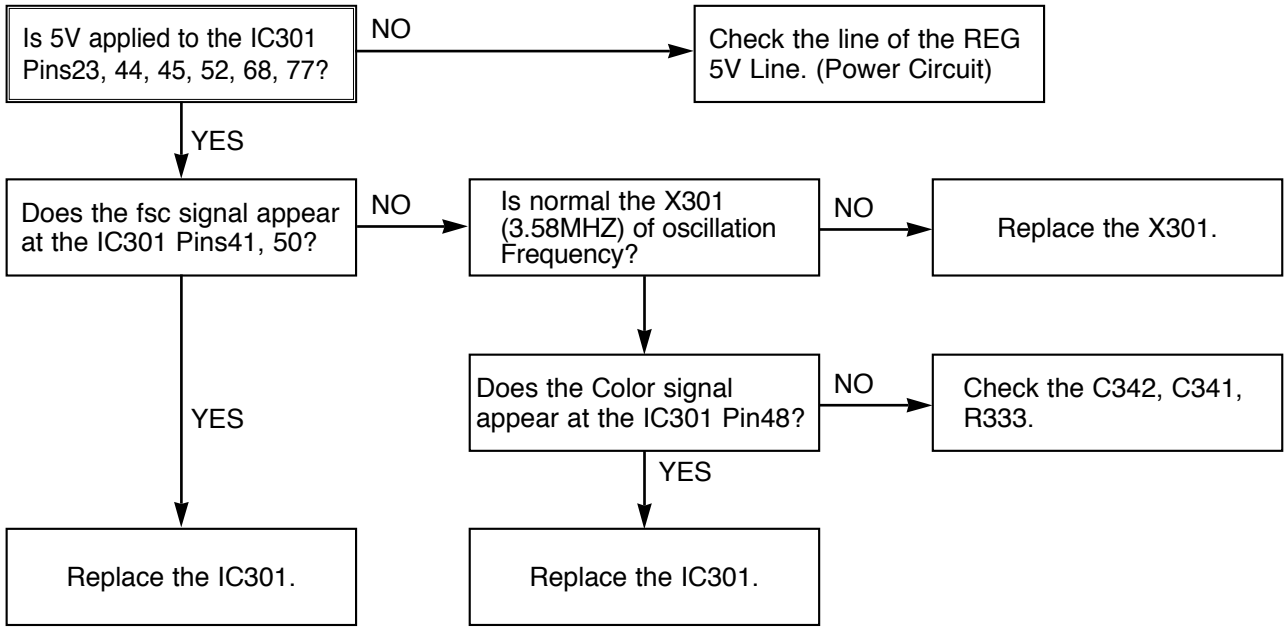
(1) No Video in EE Mode,


No Video in EE Mode
Does the Video signal appear at the IC301 Pins28, 30, 32?
NO
Does the Video signal appear at the IC302 Pins1, 5?
NO
Check DVD Video Input (IC602, Pin4), Tuner Video Input (TU701 Pin16), Line Video Input (JK601), respectively.
YES
YES
Is there 5V at the IC302 Pin6?
YES
Replace the IC302.
Is REG 5.0V applied to the IC301Pins23, 44, 45, 52, 68, 77?
NO
Check the REG 5V Line. (Power Circuit)
YES
Does the Video signal appear at the IC301 Pin26?
NO
Is I²C BUS signal applied to the IC301 Pins53, 54, 55?
NO
Check the System Circuit. (Refer to 'SYSTEM I²C BUS CHECK Trouble Shooting')
YES
YES
Does the Video signal appear at the IC501 Pin52?
NO
Check the path of the signal between the IC301 Pin 26 and IC501 Pins50, 52.
Replace the IC301.
YES
Does the Video signal appear at the IC602 Pin7?
NO
Is there 5V on the plus terminal of the C614?
NO
Check the REG 5V Line. (Power Circuit)
YES
Replace the IC602.

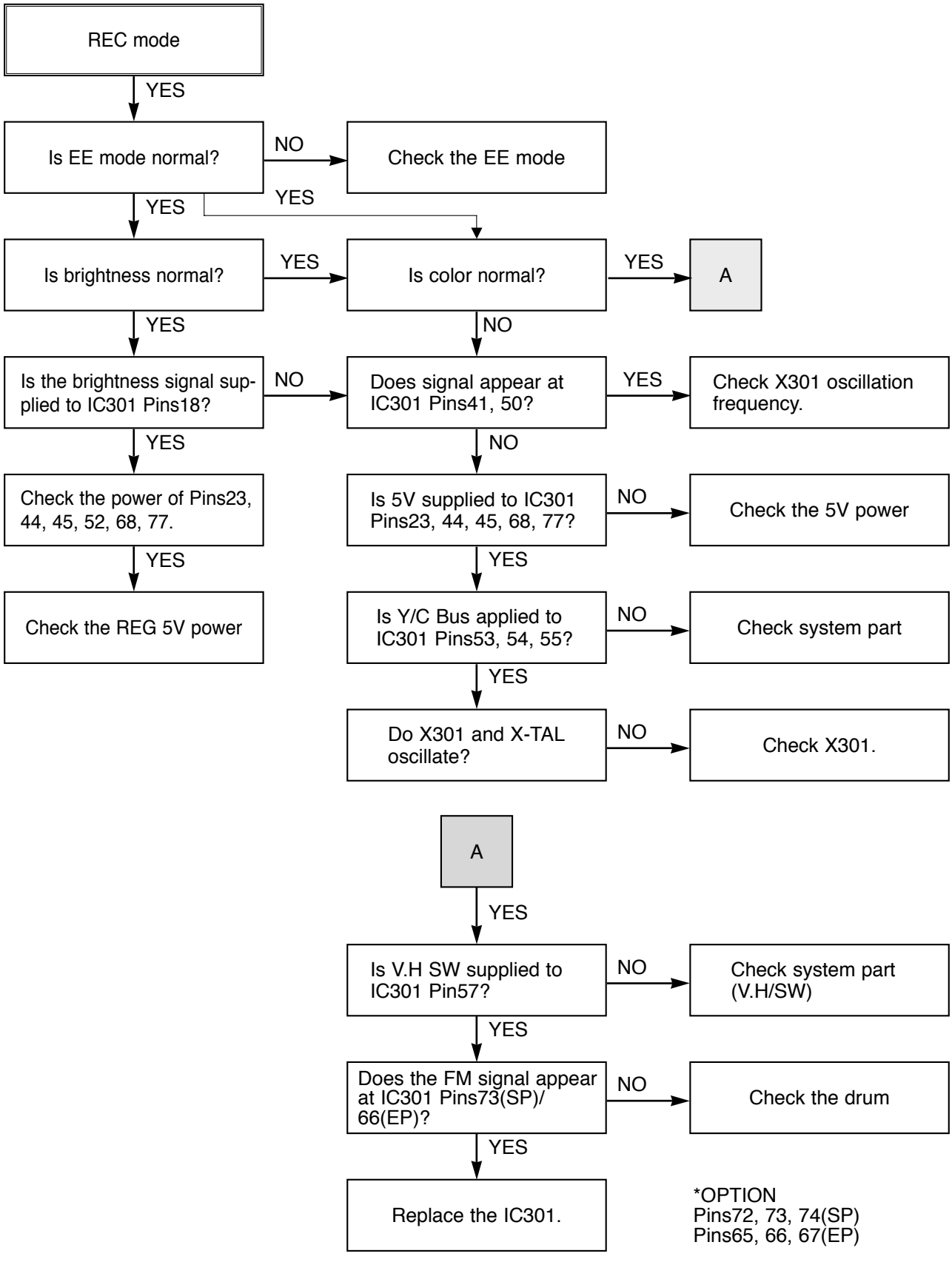
(2) When the Y(Luminance) signal doesn't appear on the screen in PB Mode,


Is 5V applied to the IC301 Pins23, 44, 45, 52, 68, 77?
NO
Check the line of the REG 5V Line. (Power Circuit)
YES
Is the Y/C Bus siganl applied to the IC301 Pins53, 54, 55?
NO
Refer to 'SYSTEM Y/C BUS CHECK Trouble Shooting'.
YES
Does the normal RF signal appear at the IC301 Pin 14?
NO
Is the V.H.S/W signal applied to the IC301 Pin57?
NO
Check the System Circuit. (IC501 Pin18)
YES
Does the Rectangular waveform(5V) appear at the IC301 Pin57(V.H.S/W)
NO
Check the V.H.S/W level.
YES
YES
Clean the Drum.
Does the Y(Luminance) signal appear at the IC301 Pin20?
NO
Check the R328, R347, C322, C323.
YES
Is the Y(Luminance) Video waveform showed up at the IC301 Pin22?
NO
Check the C324.
YES
Replace the IC301.

(3) When the C(Color) signal doesn't appear on the screen in PB Mode,

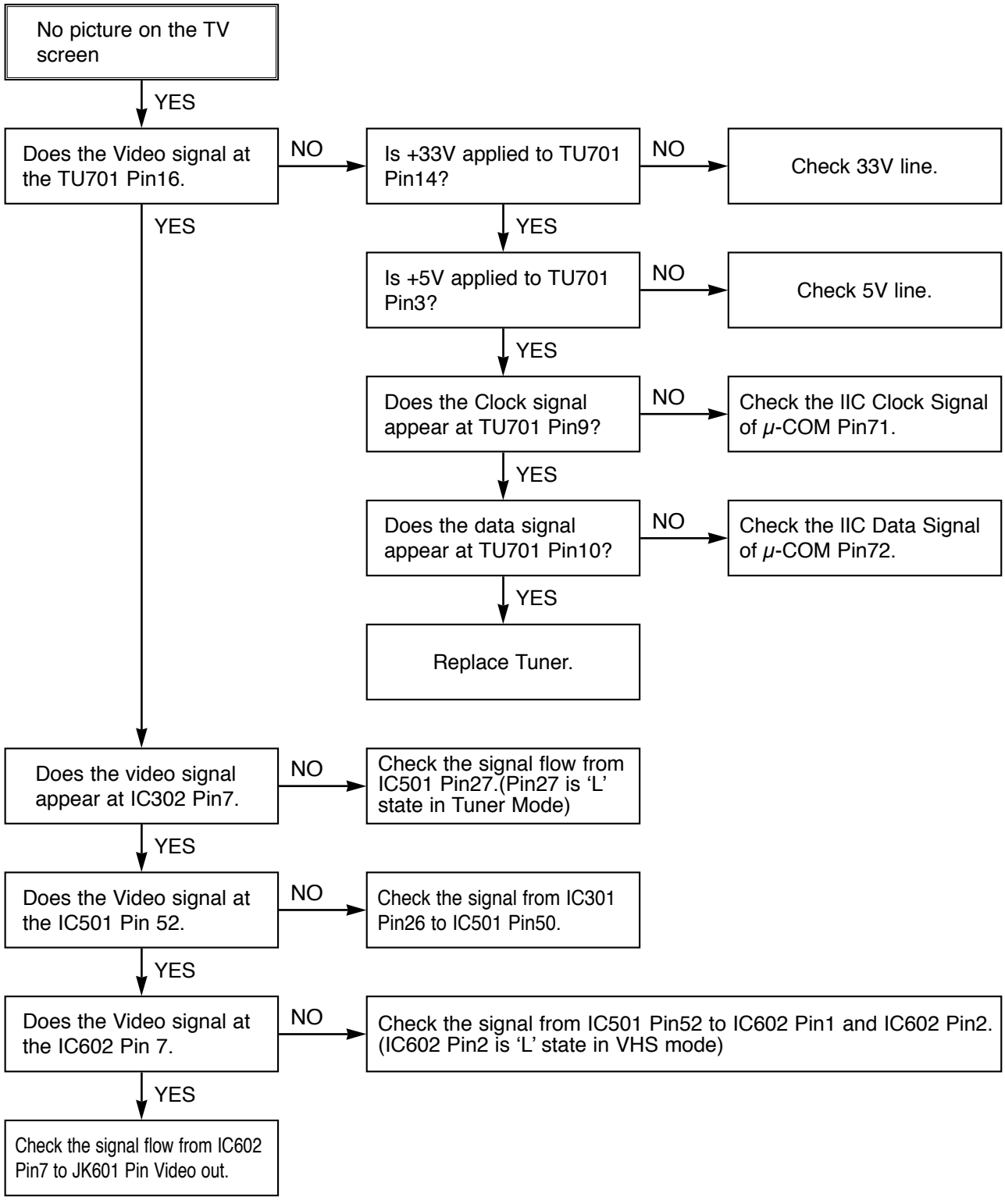

Is 5V applied to the IC301 Pins23, 44, 45, 52, 68, 77?
NO
Check the line of the REG 5V Line. (Power Circuit)
YES
Does the fsc signal appear at the IC301 Pins41, 50?
NO
Is normal the X301 (3.58MHZ) of oscillation Frequency?
NO
Replace the X301.
YES
Does the Color signal appear at the IC301 Pin48?
NO
Check the C342, C341, R333.
YES
Replace the IC301.
Replace the IC301.

(4) When the Video signal doesn't appear on the screen in REC Mode,

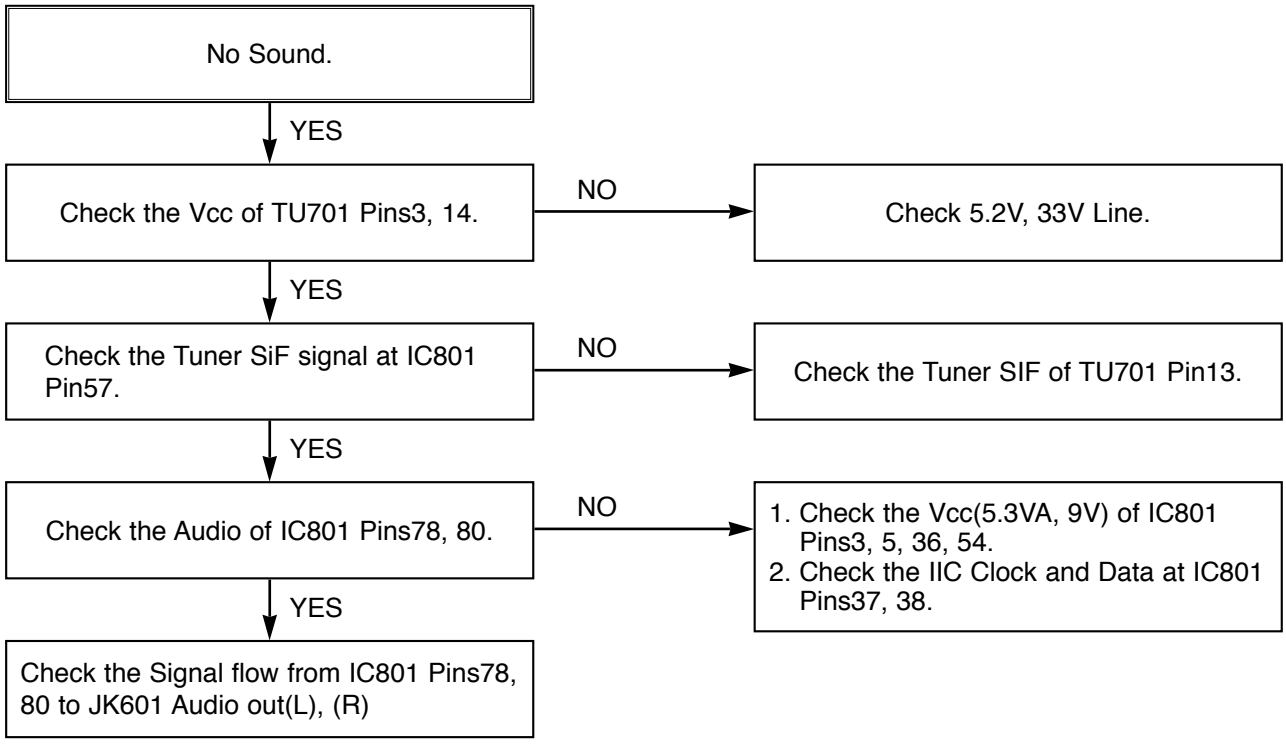


6. Tuner/IF CIRCUIT

(1) No Picture on the TV screen

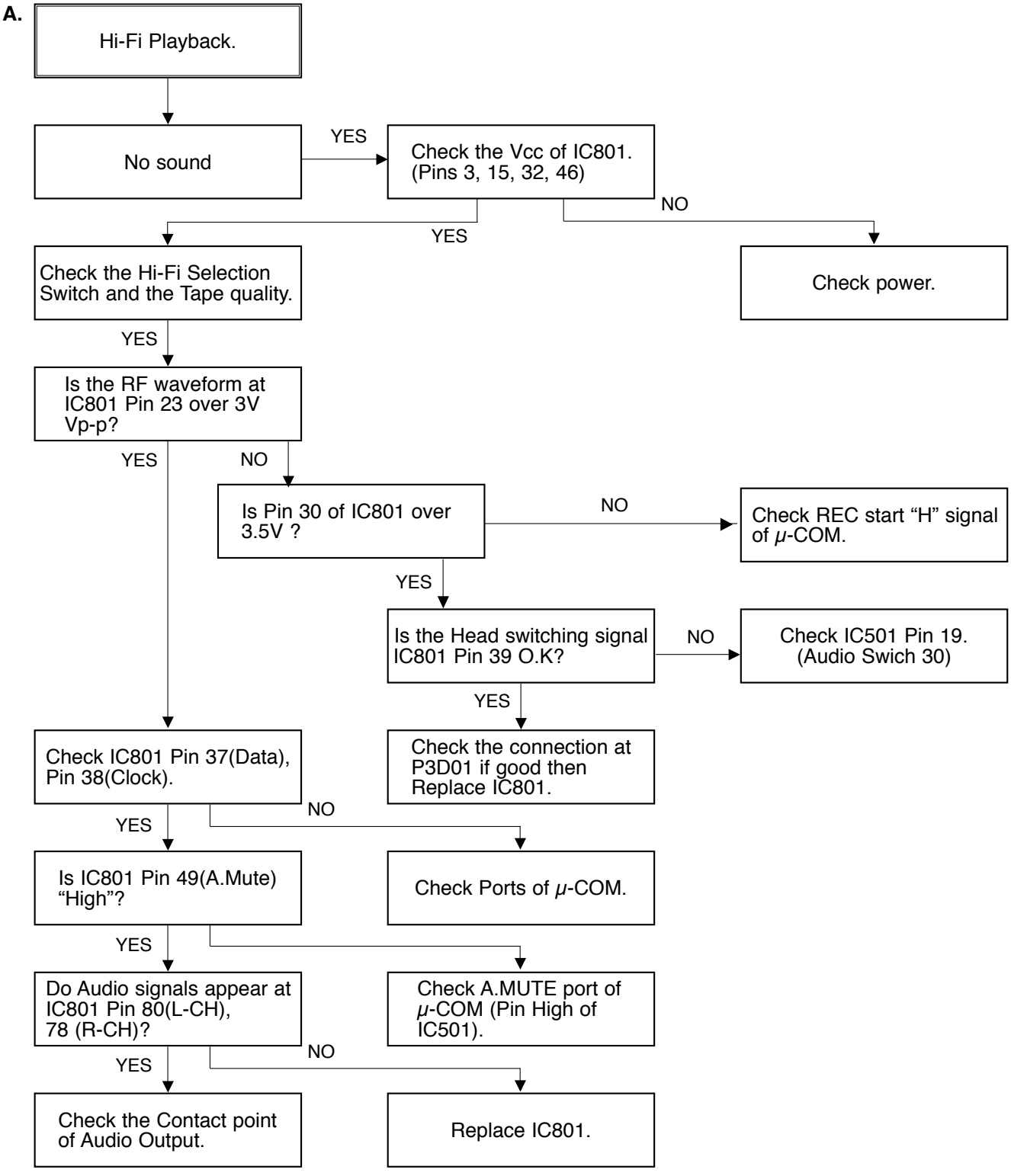

No picture on the TV screen
YES
Does the Video signal at the TU701 Pin16.
NO
Is +33V applied to TU701 Pin14?
NO
Check 33V line.
YES
YES
Is +5V applied to TU701 Pin3?
NO
Check 5V line.
YES
Does the Clock signal appear at TU701 Pin9?
NO
Check the IIC Clock Signal of μ-COM Pin71.
YES
Does the data signal appear at TU701 Pin10?
NO
Check the IIC Data Signal of μ-COM Pin72.
YES
Replace Tuner.
Does the video signal appear at IC302 Pin7.
NO
Check the signal flow from IC501 Pin27.(Pin27 is 'L' state in Tuner Mode)
YES
Does the Video signal at the IC501 Pin 52.
NO
Check the signal from IC301 Pin26 to IC501 Pin50.
YES
Does the Video signal at the IC602 Pin 7.
NO
Check the signal from IC501 Pin52 to IC602 Pin1 and IC602 Pin2. (IC602 Pin2 is 'L' state in VHS mode)
YES
Check the signal flow from IC602 Pin7 to JK601 Pin Video out.

(2) No Sound

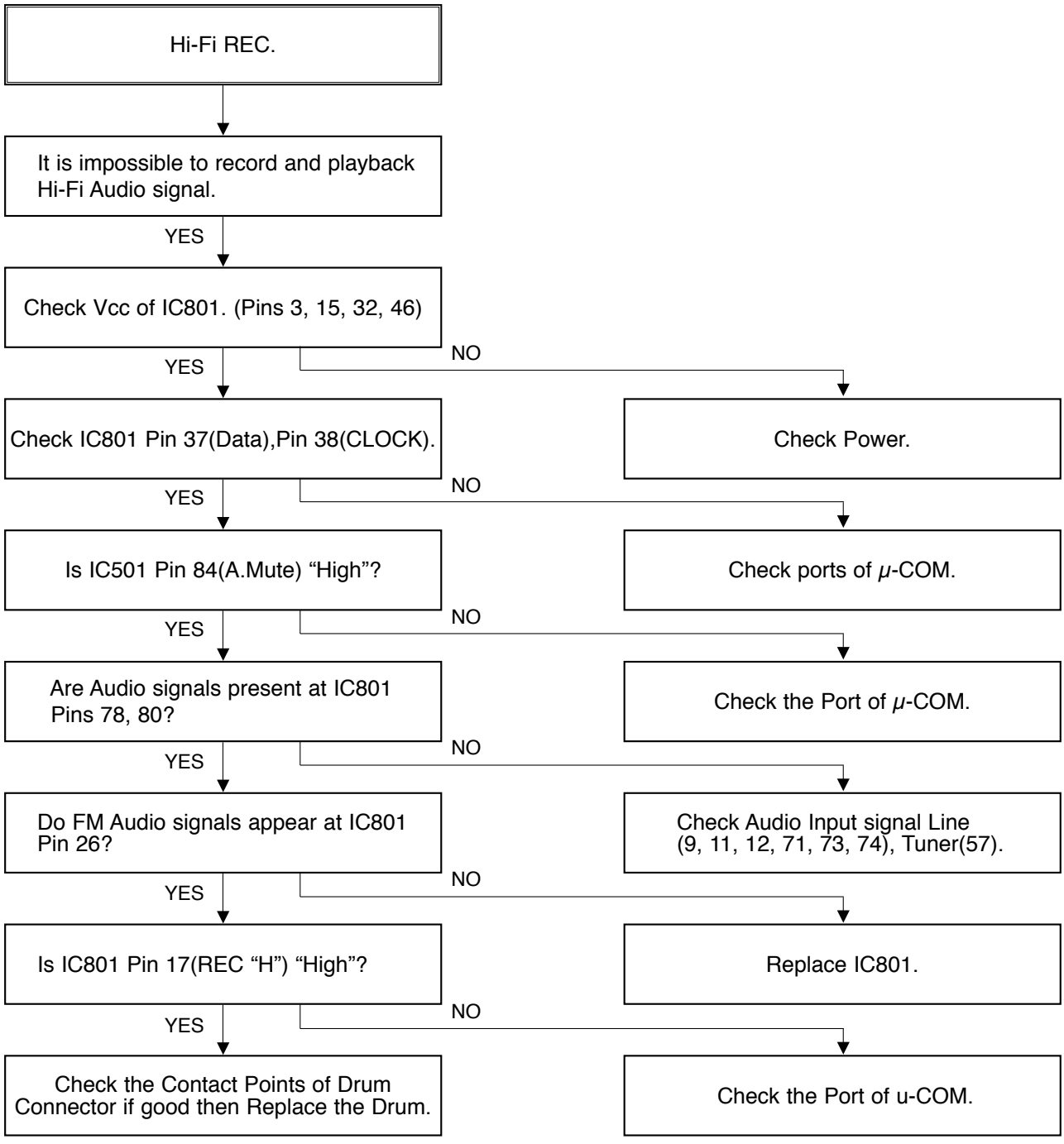

No Sound.
YES
Check the Vcc of TU701 Pins3, 14.
NO
Check 5.2V, 33V Line.
YES
Check the Tuner SiF signal at IC801 Pin57.
NO
Check the Tuner SIF of TU701 Pin13.
YES
Check the Audio of IC801 Pins78, 80.
NO
1. Check the Vcc(5.3VA, 9V) of IC801 Pins3, 5, 36, 54.
2. Check the IIC Clock and Data at IC801 Pins37, 38.
YES
Check the Signal flow from IC801 Pins78, 80 to JK601 Audio out(L), (R)

7. Hi-Fi Circuit

A.


Hi-Fi Playback.
No sound
YES
Check the Vcc of IC801. (Pins 3, 15, 32, 46)
NO
YES
Check the Hi-Fi Selection Switch and the Tape quality.
Check power.
YES
Is the RF waveform at IC801 Pin 23 over 3V Vp-p?
YES
NO
Is Pin 30 of IC801 over 3.5V ?
NO
Check REC start “H” signal of μ-COM.
YES
Is the Head switching signal IC801 Pin 39 O.K?
NO
Check IC501 Pin 19. (Audio Swich 30)
YES
Check IC801 Pin 37(Data), Pin 38(Clock).
Check the connection at P3D01 if good then Replace IC801.
NO
YES
Is IC801 Pin 49(A.Mute) “High”?
Check Ports of μ-COM.
YES
Do Audio signals appear at IC801 Pin 80(L-CH), 78 (R-CH)?
Check A.MUTE port of μ-COM (Pin High of IC501).
NO
YES
Check the Contact point of Audio Output.
Replace IC801.

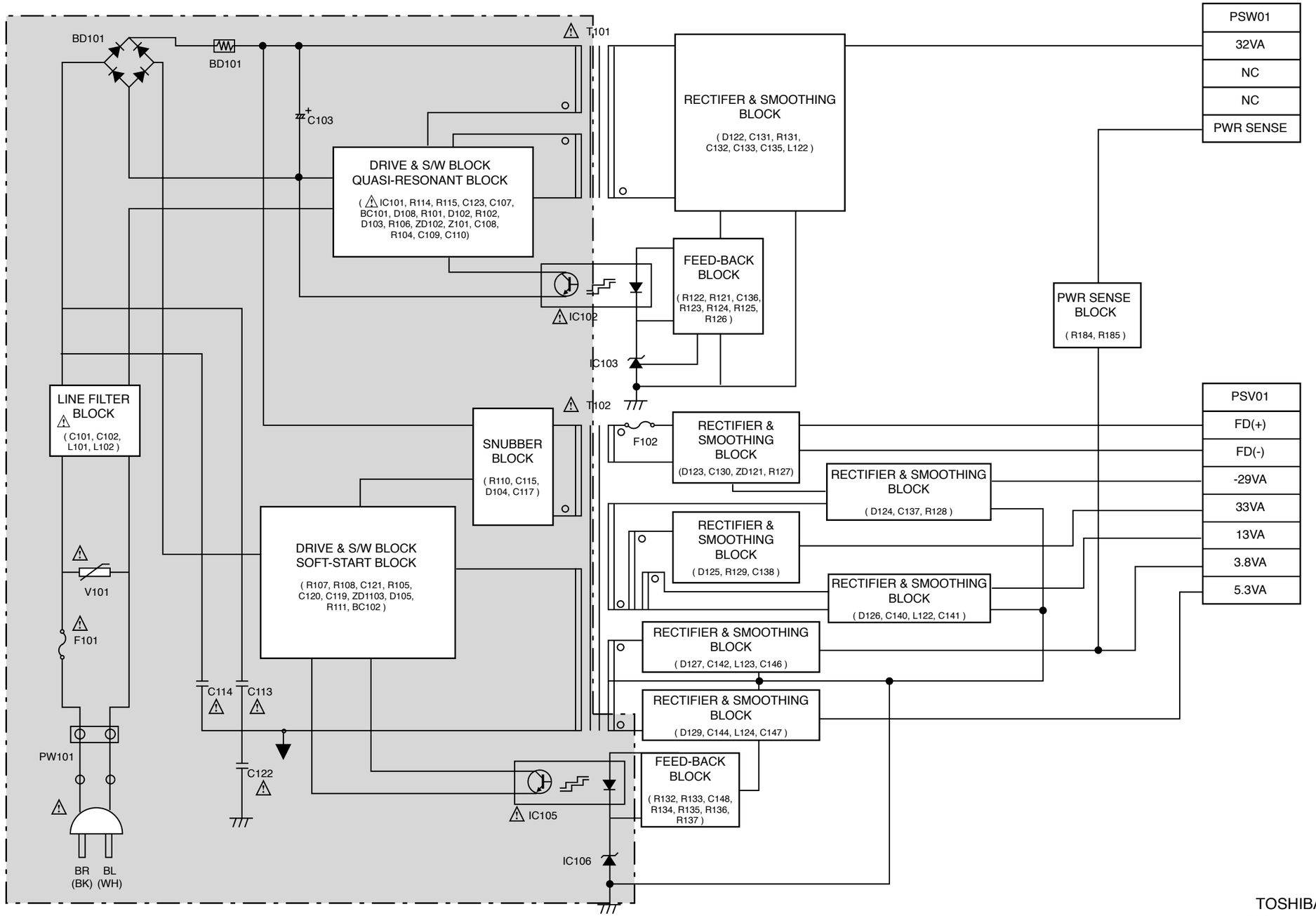
B.


Hi-Fi REC.
It is impossible to record and playback Hi-Fi Audio signal.
YES
Check Vcc of IC801. (Pins 3, 15, 32, 46)
NO
YES
Check Power.
Check IC801 Pin 37(Data),Pin 38(CLOCK).
NO
YES
Check ports of μ-COM.
Is IC501 Pin 84(A.Mute) “High”?
NO
YES
Check the Port of μ-COM.
Are Audio signals present at IC801 Pins 78, 80?
NO
YES
Check Audio Input signal Line (9, 11, 12, 71, 73, 74), Tuner(57).
Do FM Audio signals appear at IC801 Pin 26?
NO
YES
Replace IC801.
Is IC801 Pin 17(REC “H”) “High”?
NO
YES
Check the Port of u-COM.
Check the Contact Points of Drum Connector if good then Replace the Drum.

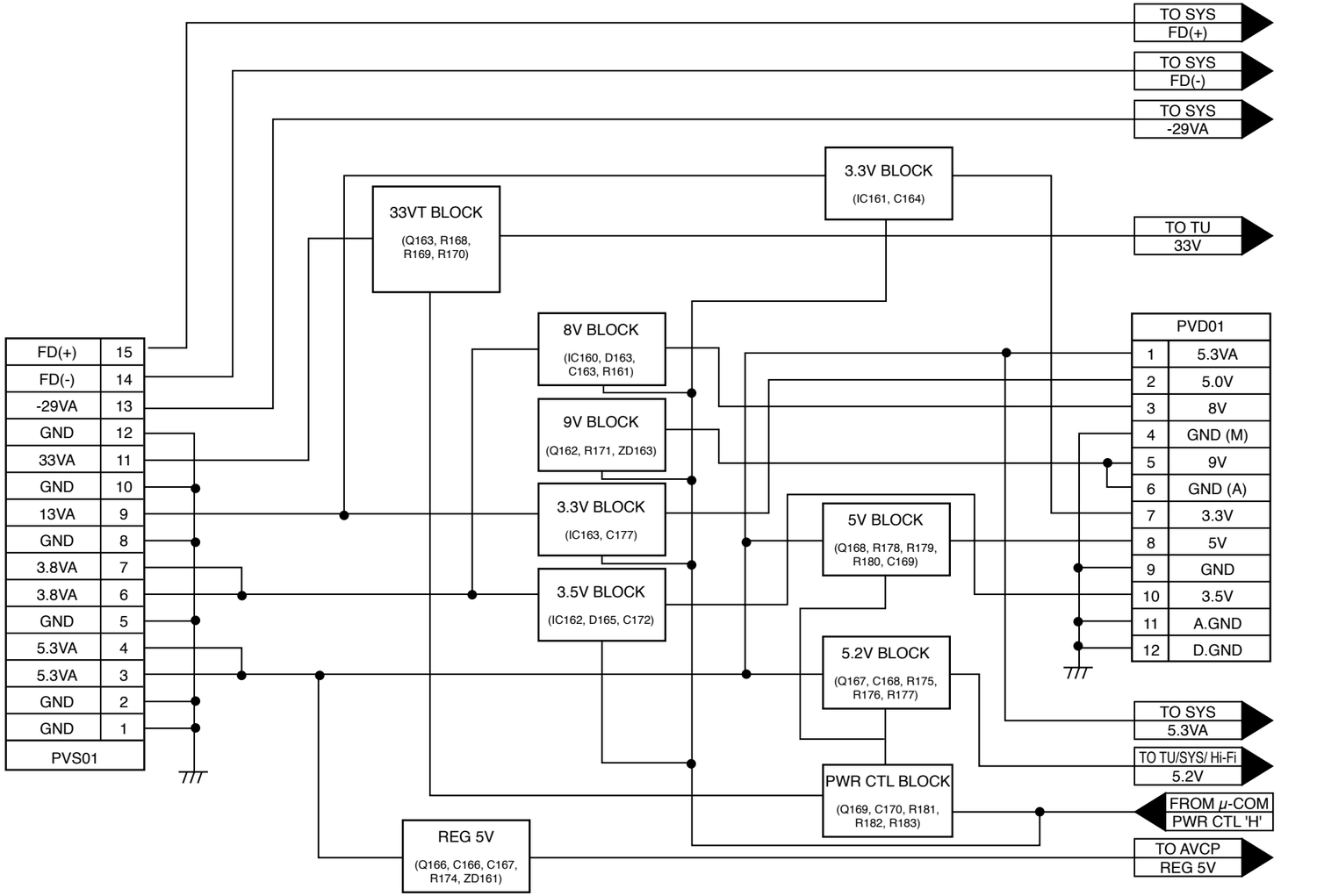
MEMO

BLOCK DIAGRAMS

1. POWER(SMPS) BLOCK DIAGRAM 1



2. POWER(SMPS) BLOCK DIAGRAM 2



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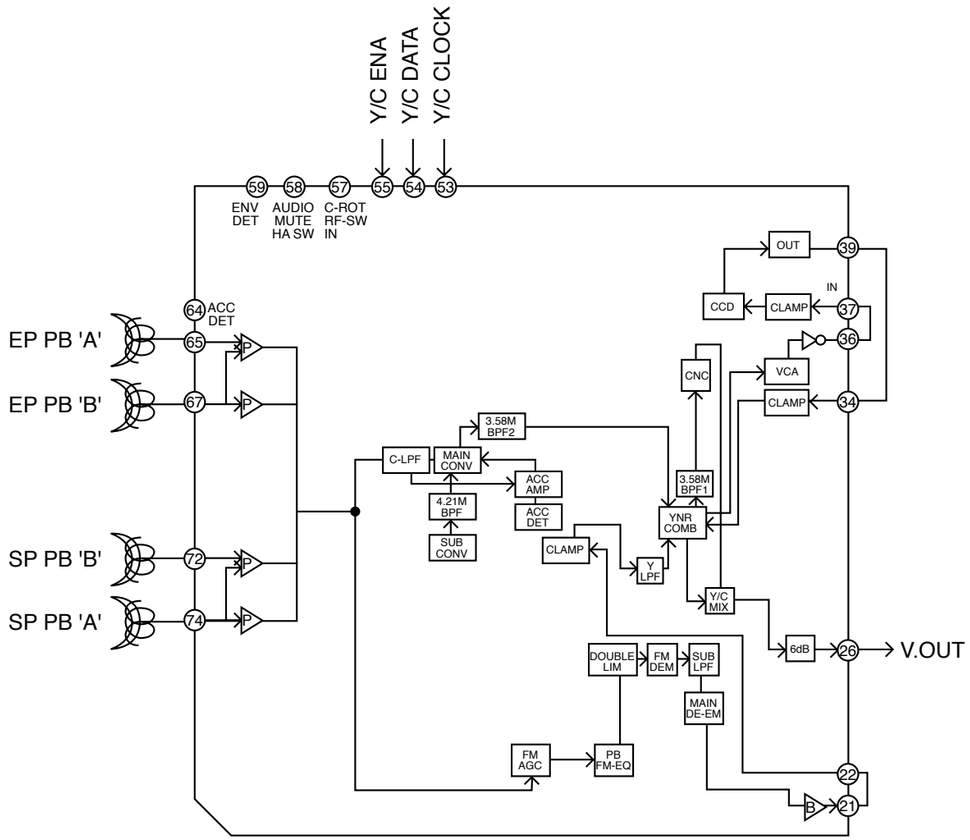
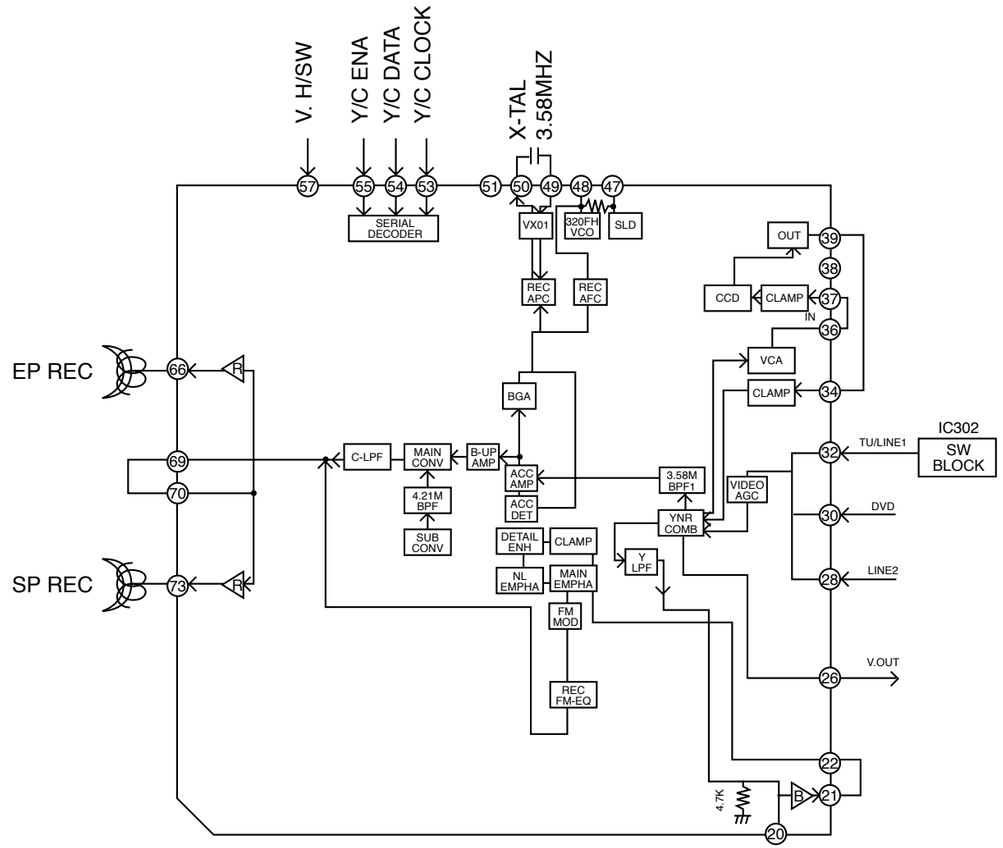
3. Y/C BLOCK DIAGRAM

(PB Mode)



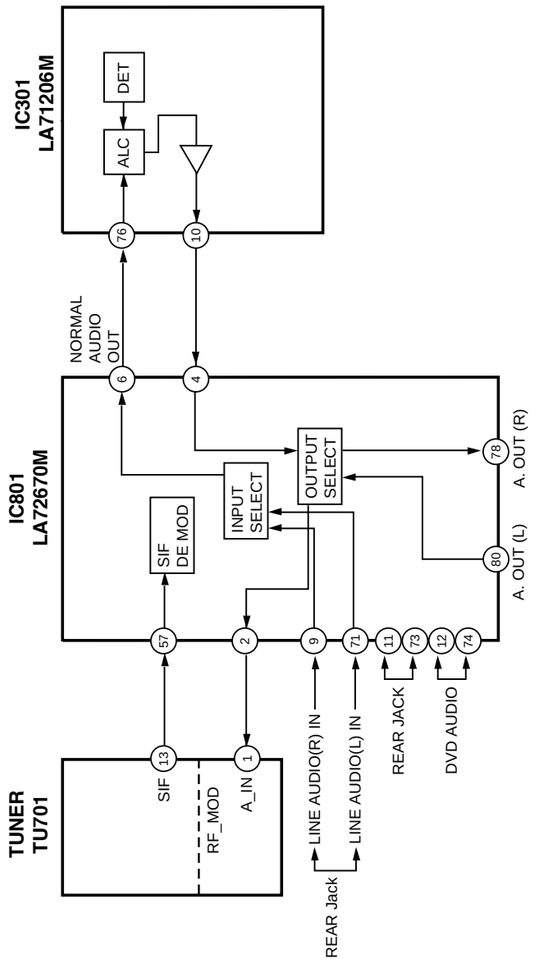
(REC Mode)



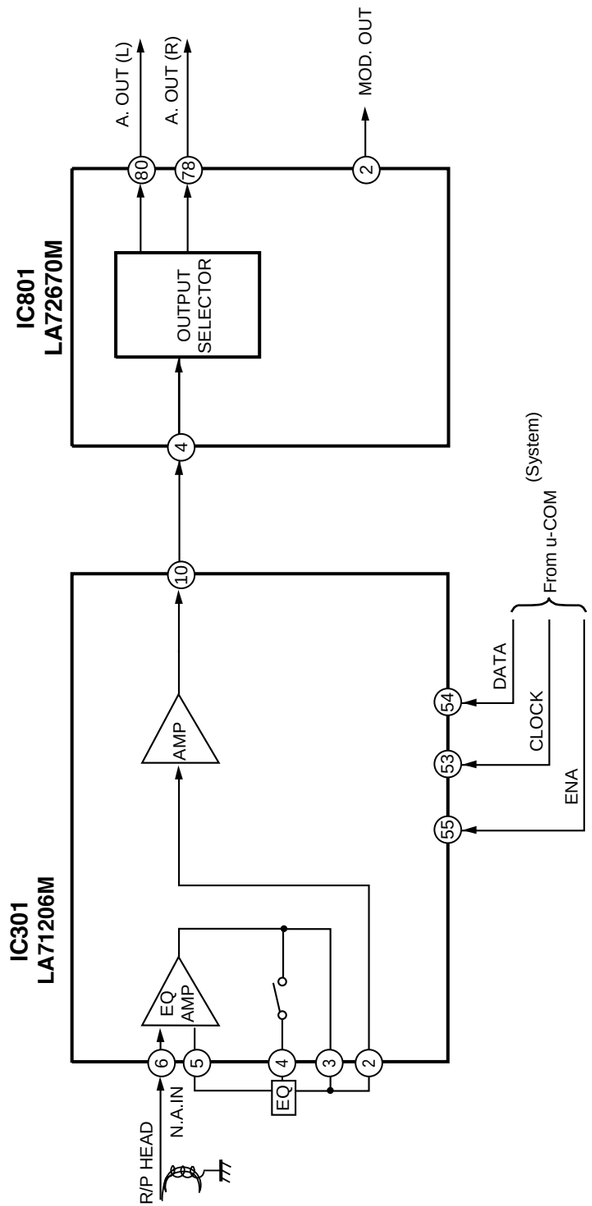
TOSHIBA
SD-V55HTSU/SC

4. NORMAL AUDIO BLOCK DIAGRAM

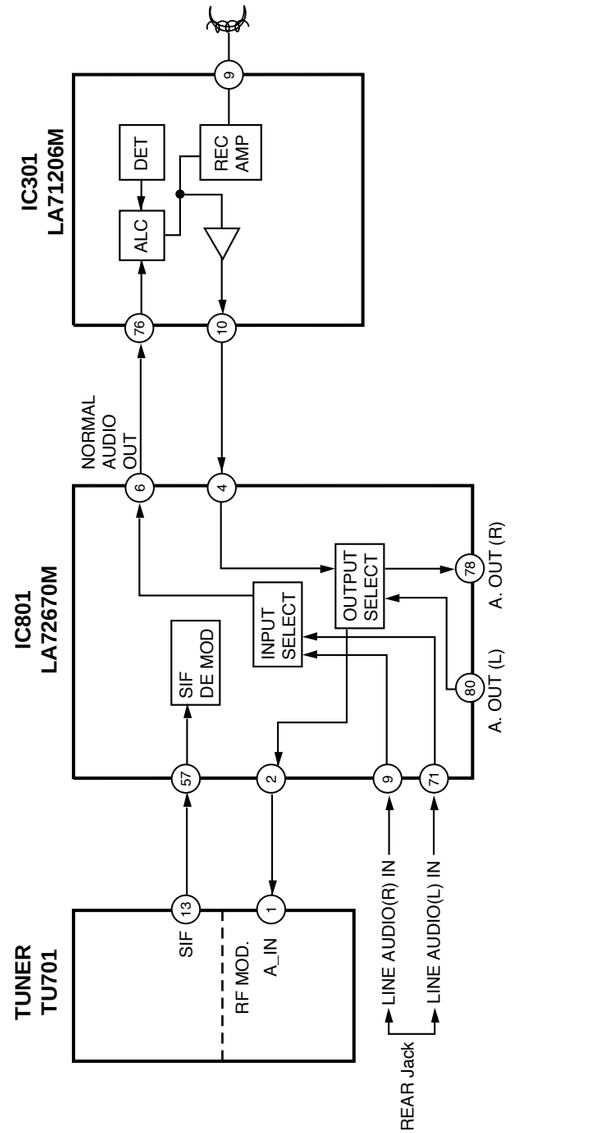
1) EE Mode



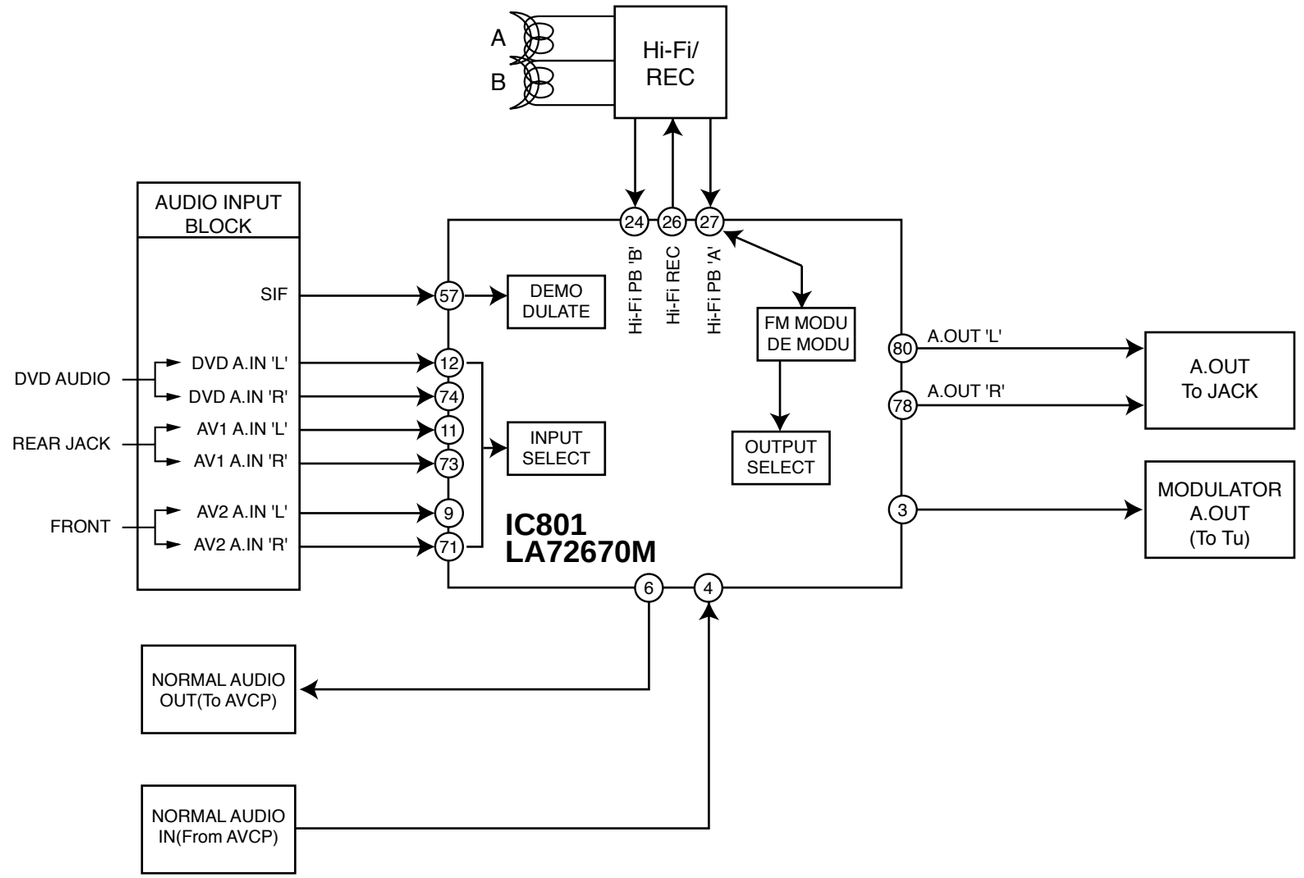
2) PB Mode



3) REC Mode



5. Hi-Fi BLOCK DIAGRAM



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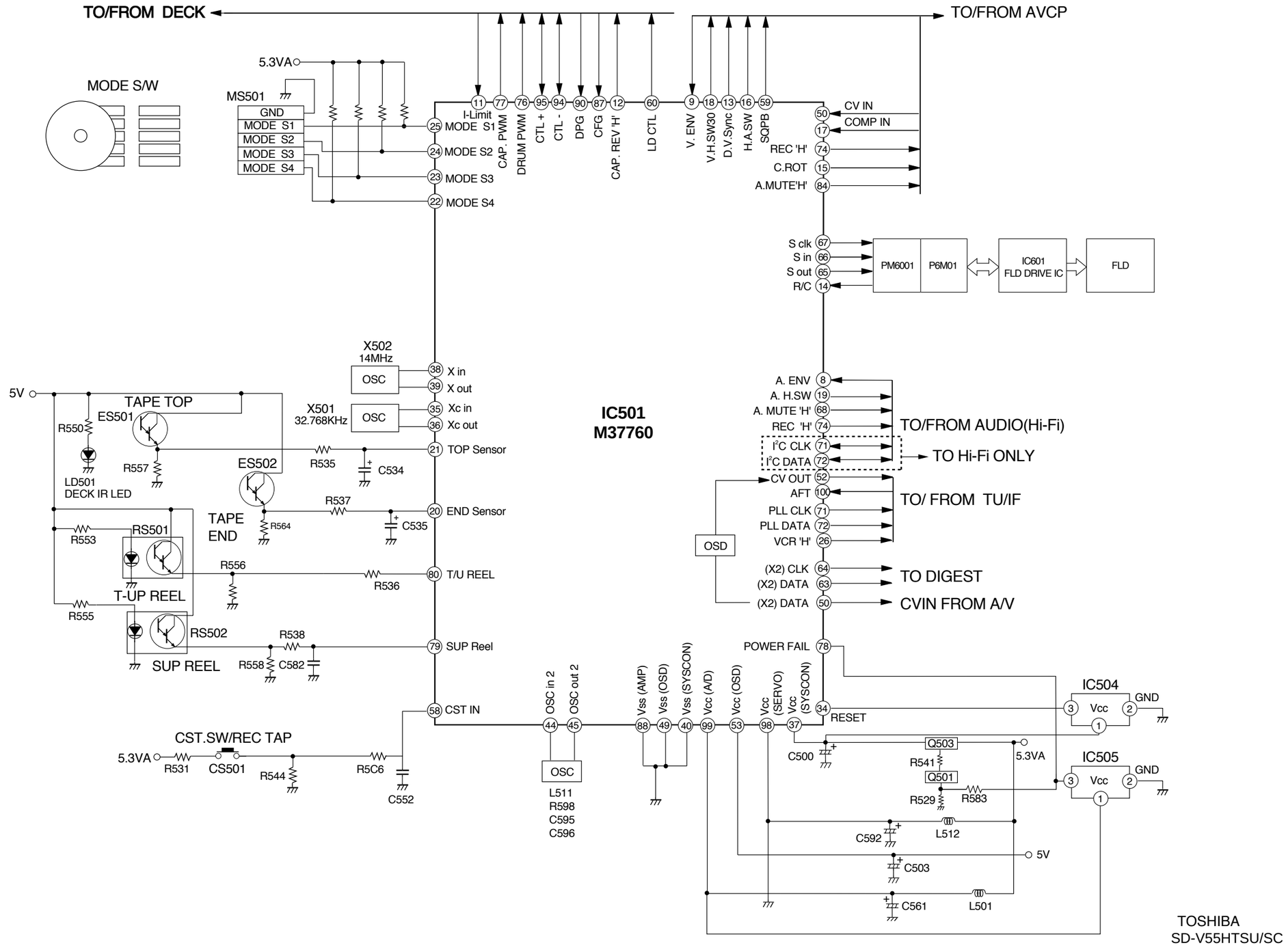
6. SYSTEM BLOCK DIAGRAM



TOSHIBA
SD-V55HTSU/SC

CIRCUIT DIAGRAMS

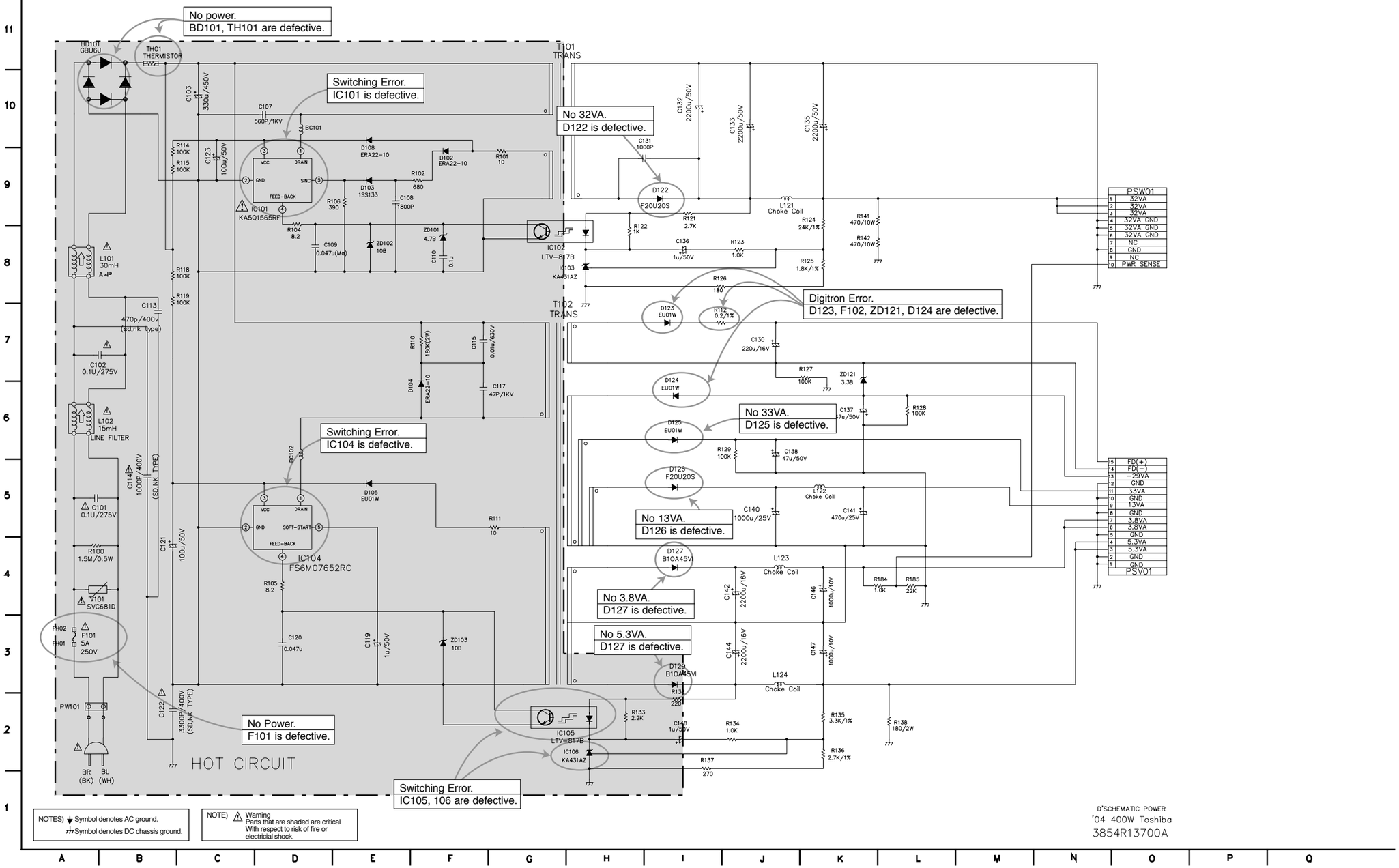
1. POWER(SMPS) CIRCUIT DIAGRAM 1

IMPORTANT SAFETY NOTICE

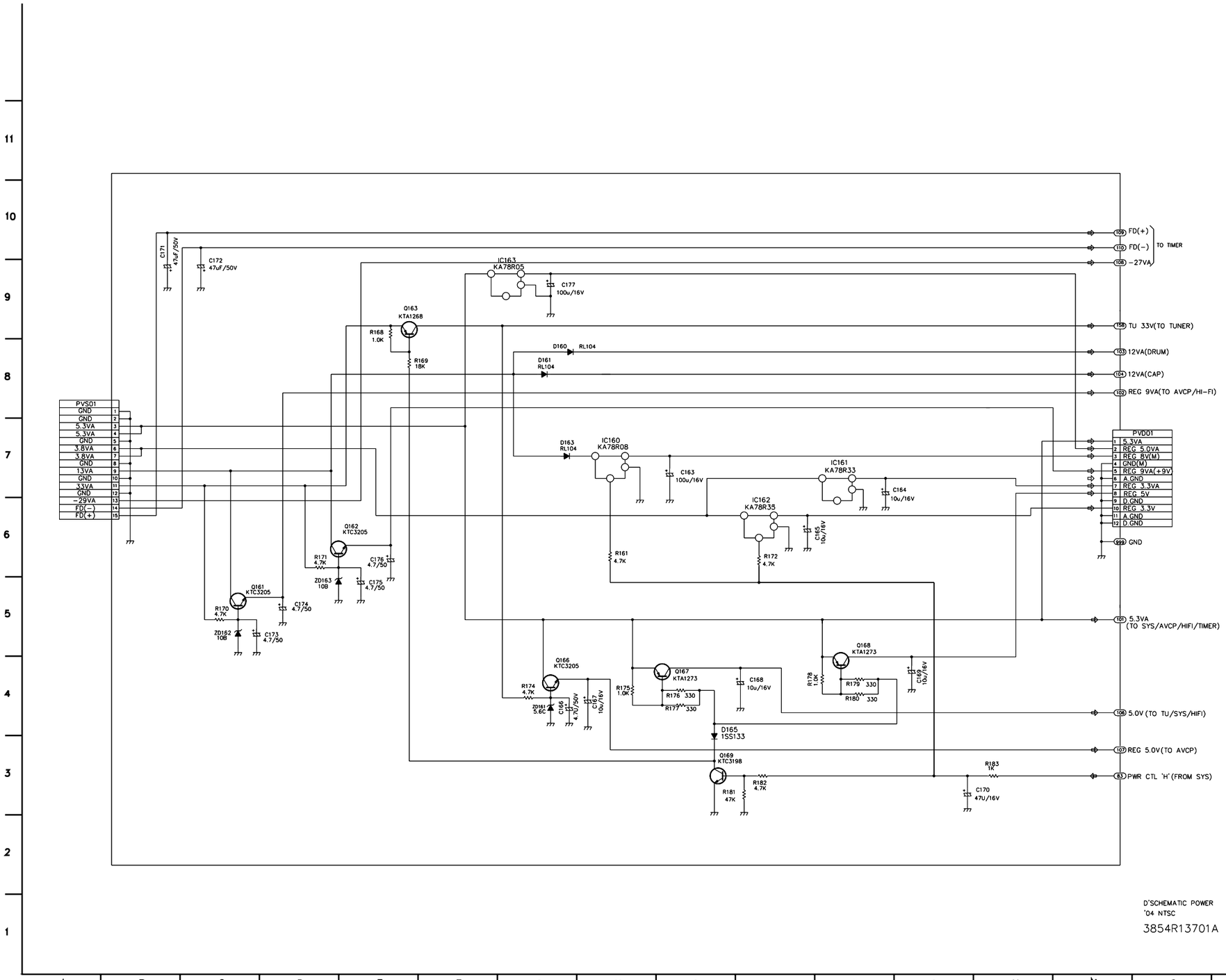
WHEN SERVICING THIS CHASSIS, UNDER NO CIRCUMSTANCES SHOULD THE ORIGINAL DESIGN BE MODIFIED OR ALTERED WITHOUT PERMISSION FROM THE TOSHIBA ELECTRONICS CORPORATION. ALL COMPONENTS SHOULD BE REPLACED ONLY WITH TYPES IDENTICAL TO THOSE IN THE ORIGINAL CIRCUIT. SPECIAL COMPONENTS ARE SHADED ON THE SCHEMATIC FOR EASY IDENTIFICATION.
THIS CIRCUIT DIAGRAM MAY OCCASIONALLY DIFFER FROM THE ACTUAL CIRCUIT USED. THIS WAY, IMPLEMENTATION OF THE LATEST SAFETY AND PERFORMANCE IMPROVEMENT CHANGES INTO THE SET IS NOT DELAYED UNTIL THE NEW SERVICE LITERATURE IS PRINTED.

NOTE :

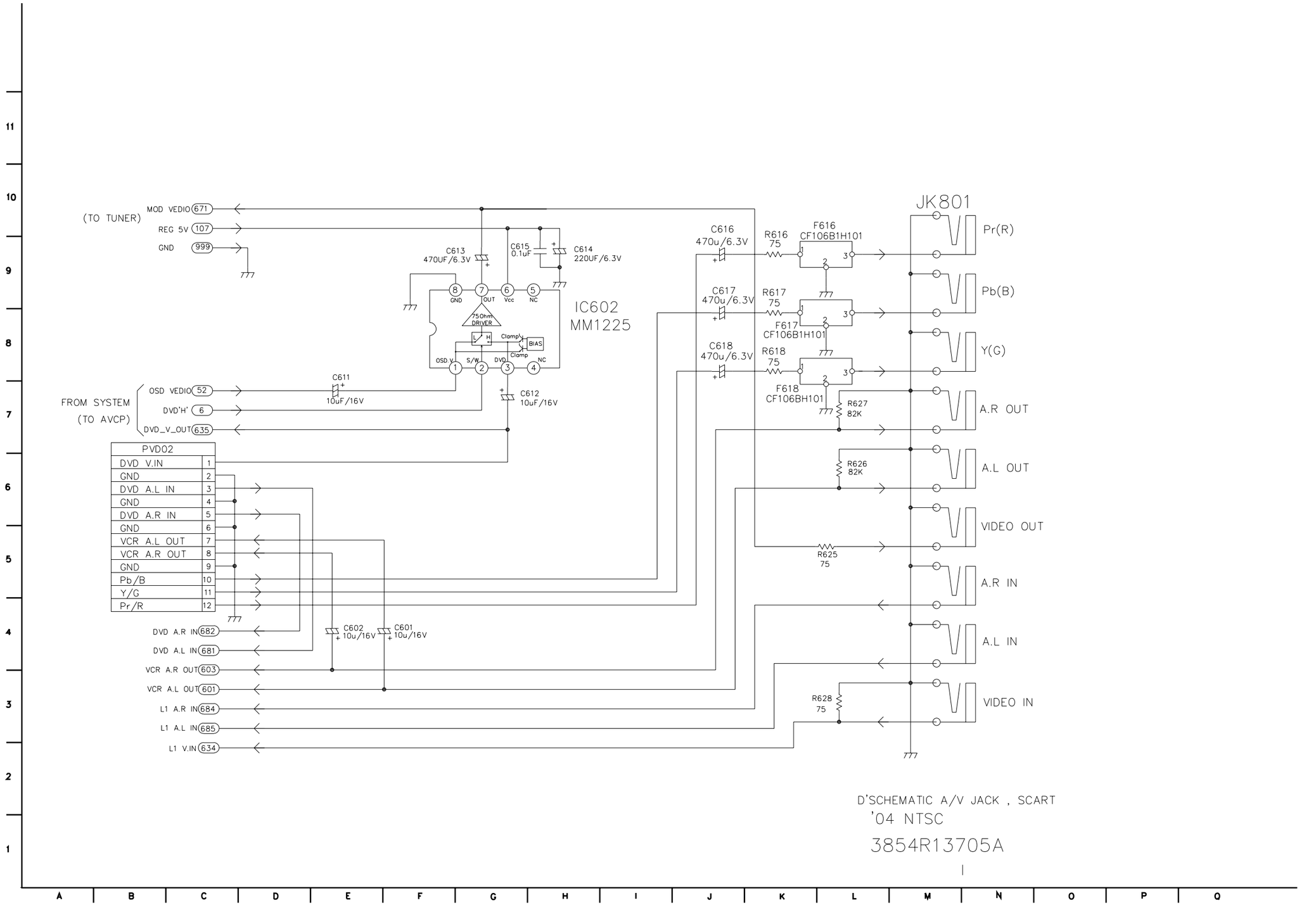
1. Shaded(■) parts are critical for safety. Replace only with specified part number.
2. Voltages are DC-measured with a digital voltmeter during Play mode.



2. POWER(SMPS) CIRCUIT DIAGRAM 2

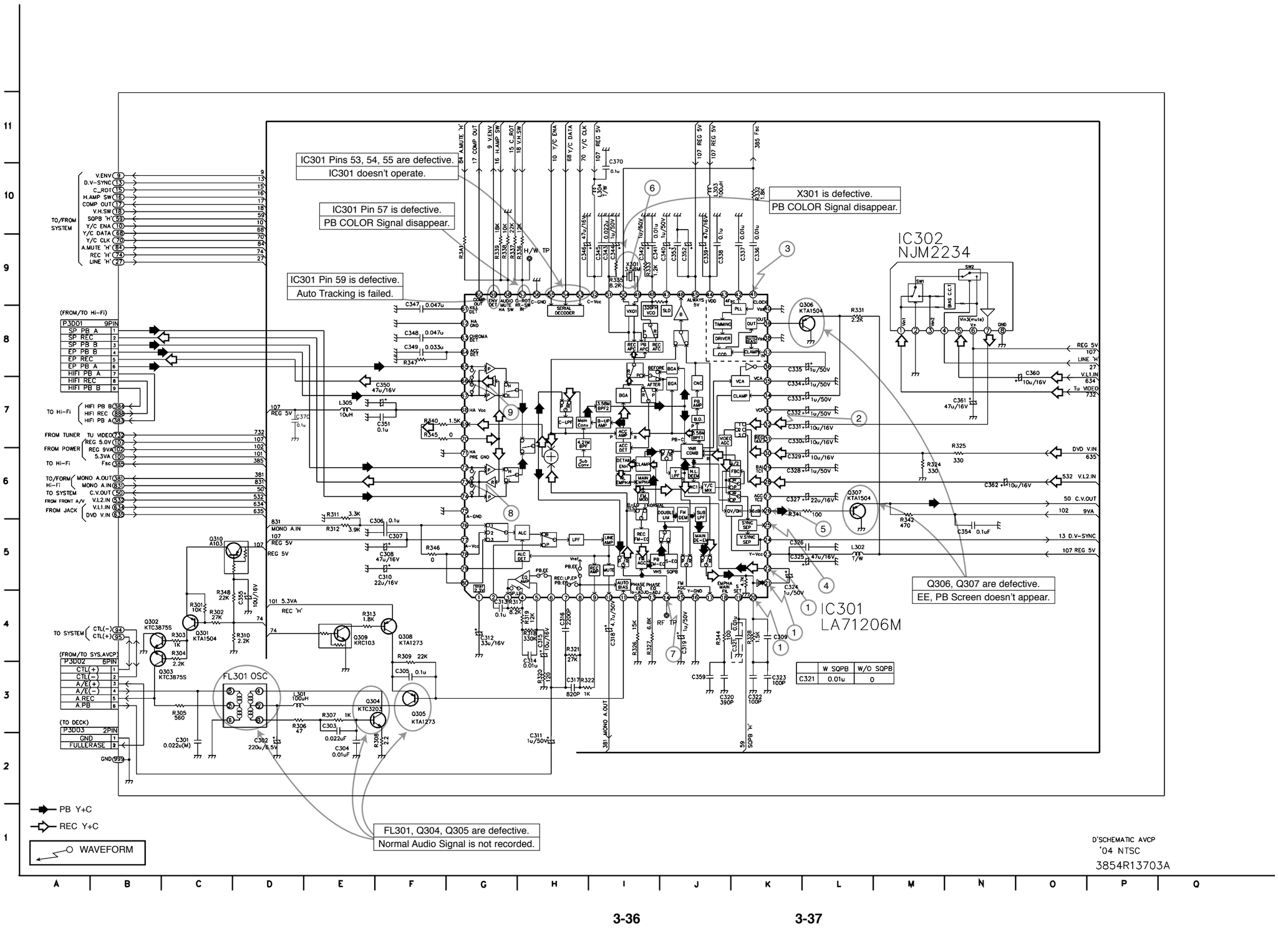


3. JACK, TUNER CIRCUIT DIAGRAM



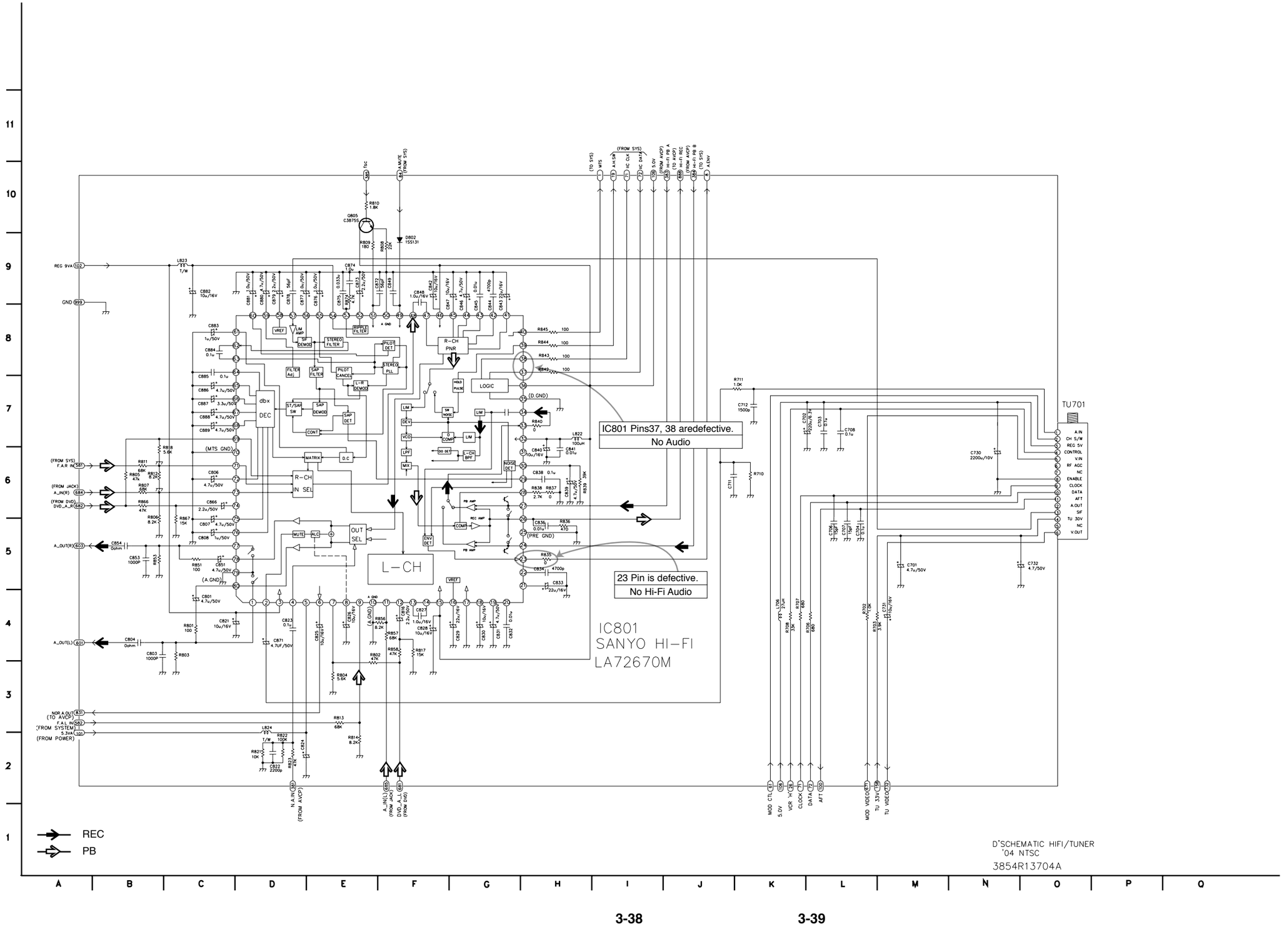
D'SCHEMATIC A/V JACK , SCART
'04 NTSC
3854R13705A

4. A/V CIRCUIT DIAGRAM

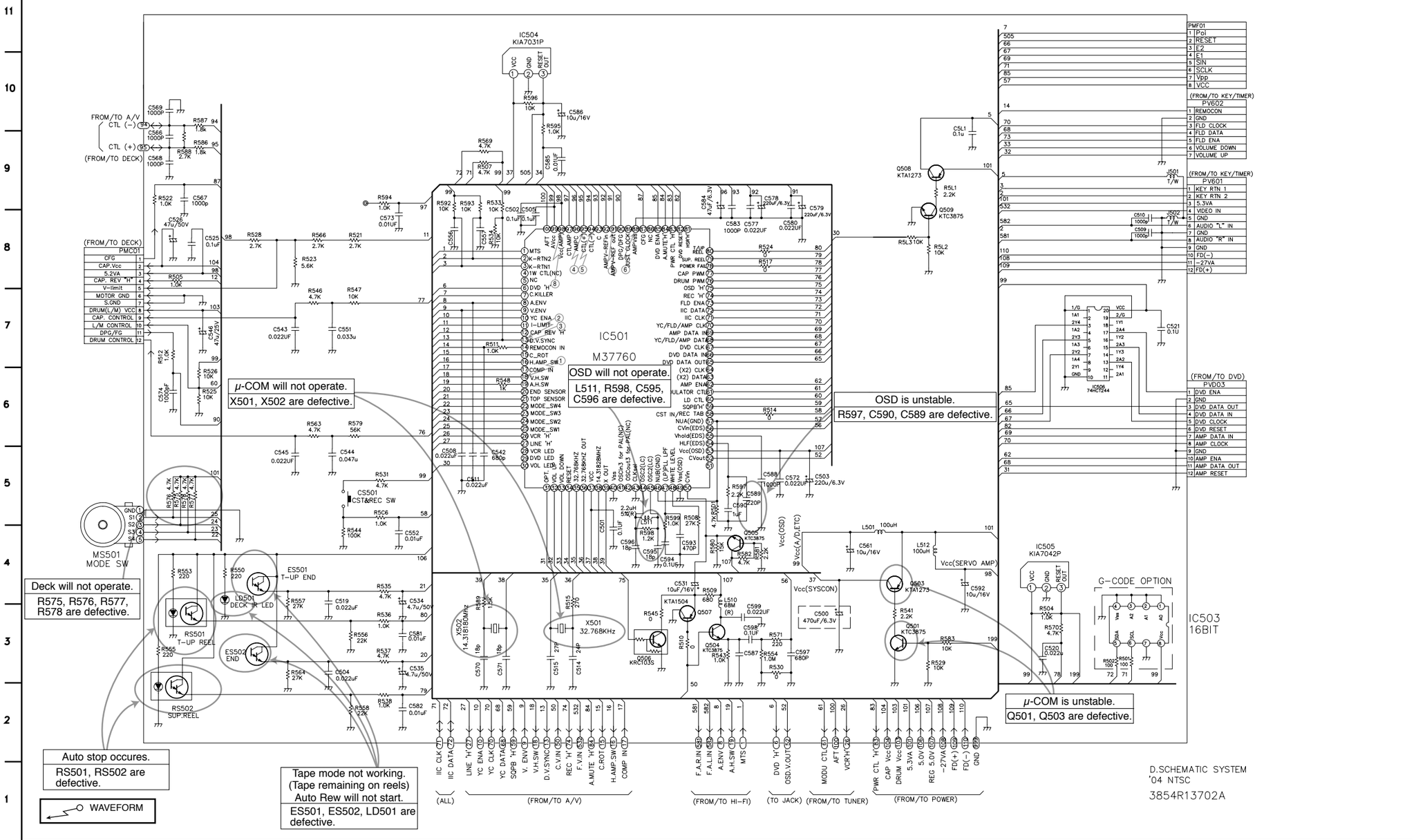


	W SQPB	W/O SQPB
C321	0.01u	0

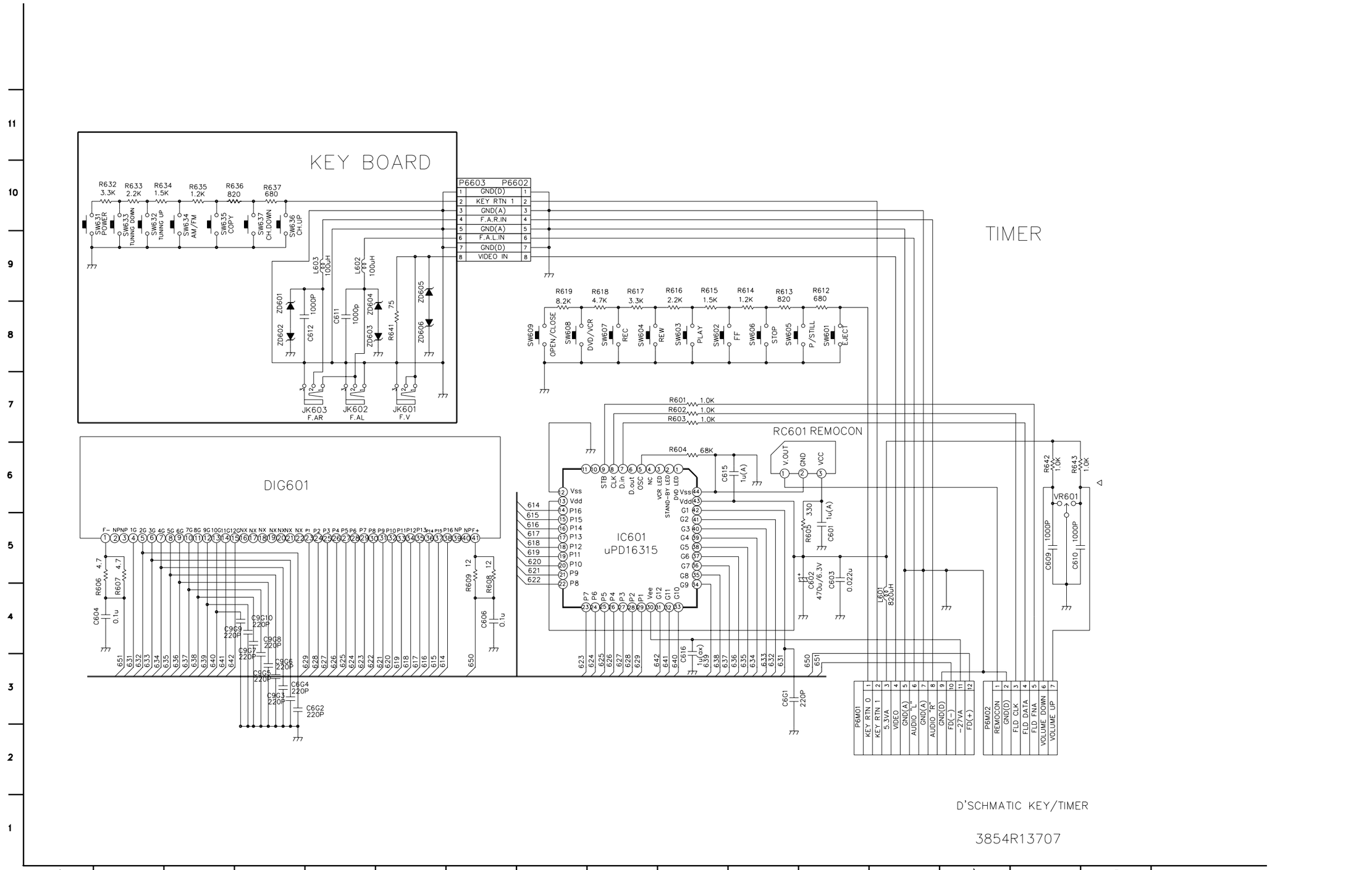
5. Hi-Fi CIRCUIT DIAGRAM



6. SYSTEM CIRCUIT DIAGRAM



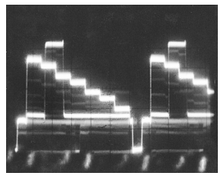
7. KEY CIRCUIT DIAGRAM



• WAVEFORMS

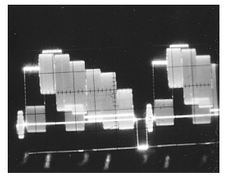
* IC301 Waveform

①



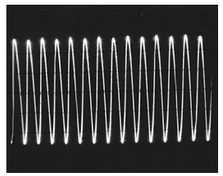
IC301 Pins 20, 21, 22
100mV/10msec DIV
VV/EE
20 Main DE Emphasis Filter
21 Main DE Emphasis out
22 Clamp in

②



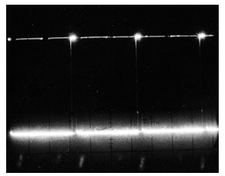
IC301 Pin 32
200mV/10msec DIV
EE
(VIDEO IN)

③



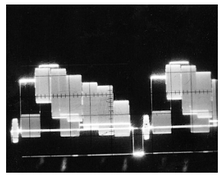
IC301 Pin 41
100mV/0.2msec DIV
REC/PB
(2fsc)

④



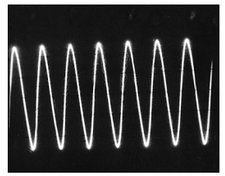
IC301 Pin 25
1.0V/20msec DIV
VV/EE
(C-SYNC OUT)

⑤



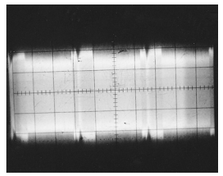
IC301 Pin 26
500mV/10msec DIV
EE
(VIDEO OUT)

⑥



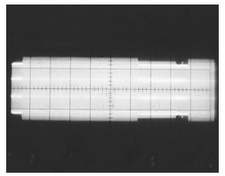
IC301 Pin 49
100mV/0.2msec DIV
PB/REC
(3.58MHz X-TAL IN)

⑦



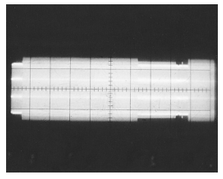
IC301 Pin 14
100mV/5msec DIV
PB
(PB RF out)

⑧



IC301 Pin 73
500mV/2msec DIV
SP REC
(REC RF)

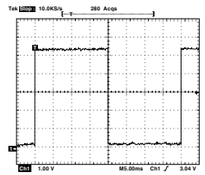
⑨



IC301 Pin 66
500mV/2msec DIV
EP REC
(REC RF)

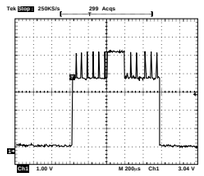
* IC501 Waveform

①



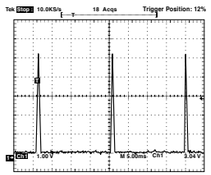
IC501 Pin 18
REC/PB

②



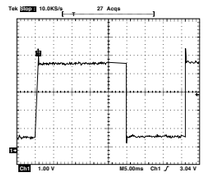
IC501 Pin 13
QUE/REV

③



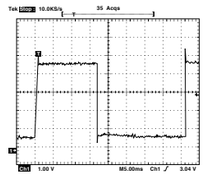
IC501 Pin 13
QUE/REV

④



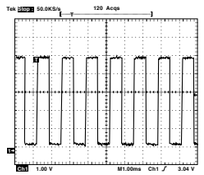
IC501 Pin 95
REC

⑤



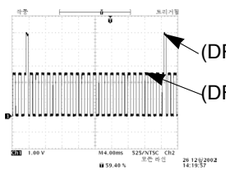
IC501 Pin 94
REC

⑥



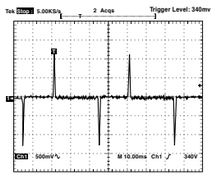
IC501 Pin 87
REC/PB

⑦



IC501 Pin 90
REC/PB
(DPG/DFG)

⑧



IC501 Pin 97
PB
(CTL OUT)

• CIRCUIT VOLTAGE CHART

MODE / PIN NO.	EE	PLAY
IC301		
1	2.3	2.31
2	2.29	2.28
3	2.29	2.28
4	2.29	2.28
5	2.31	2.29
6	2.3	2.31
7	0	2.31
8	2.31	2.32
9	2.31	2.31
10	2.25	2.27
11	4.93	4.93
12	1	1
13	0.97	0.97
14	1.92	1.89
15	1.55	1.53
16	0	0
17	2.37	2.55
18	2.39	1.45
19	0	0
20	2.46	2.49
21	1.73	1.79
22	3.07	2.29
23	4.96	4.95
24	0	0
25	0.36	0.35
26	1.83	1.87
27	1.47	1.6
28	2.25	2.56
29	2.32	2.31
30	2.25	2.26
31	4.08	4.08
32	2.25	2.26
33	3.62	2.8
34	2.97	2.93
35	3.13	3.14
36	2.37	2.37
37	2.35	2.29
38	0	0
39	1.82	1.87
40	0	0
41	0.83	0.83
42	2.34	2.37
43	0	0
44	4.92	4.92
45	4.95	4.95
46	2.27	3.17
47	3.31	3.31
48	3.32	3.32
49	3.94	3.94
50	2.54	2.55
51	2.12	2.09
52	4.95	4.95
53	4.75	4.62
54	4.7	4.52

MODE / PIN NO.	EE	PLAY
55	0.68	0.93
56	0	0
57	0	2.56
58	0	1.61
59	0	2.9
60	4.91	0.94
61	2.92	1.94
62	0	0
63	3.96	3.98
64	1.76	1.72
65	1.84	1.85
66	1.84	1.86
67	1.84	1.86
68	4.93	4.93
69	0.18	0
70	0.15	0
71	0	0
72	1.82	0.71
73	1.82	0.71
74	1.82	0.71
75	0	0
76	2.3	2.3
77	4.96	4.96
78	2.3	2.3
79	0	0
80	2.3	2.3
IC302		
1	2.96	2.96
2	0	0
3	3.01	3
4	5.12	5.12
5	2.95	2.95
6	4.97	4.97
7	2.2	2.2
8	0	0
IC501		
1	0.97	0
2	5.17	5.17
3	5.17	5.16
4	0	0
5	0.5	0.54
6	0	0
7	0.4	0.42
8	0.19	4.06
9	0.29	3.91
10	0.68	0.99
11	0	3.42
12	0	0
13	0	0
14	4.78	4.78
15	0	2.57
16	0	0
17	0.68	0.43
18	2.56	2.57
19	2.57	2.57

MODE / PIN NO.	EE	PLAY
20	0	0
21	0.11	0.11
22	5.17	5.17
23	]5.17	5.17
24	5.17	5.17
25	0	0
26	5.13	5.13
27	5.13	5.17
28	5.13	5.13
29	0	0
30	0	0
31	0	0
32	0	0
33	0	0
34	5.15	5.15
35	1.52	1.51
36	1.43	1.44
37	5.15	5.15
38	2.19	2.18
39	2.28	2.27
40	0	0
41	0.51	0.55
42	0.26	0.55
43	0.26	0
44	2.35	2.34
45	2.41	2.41
46	0	0
47	1.29	0
48	0	0
49	0	0
50	1.88	1.99
51	0.53	0.57
52	1.88	1.98
53	4.96	4.95
54	2.03	2.03
55	2.6	1.92
56	1.96	2.05
57	0	0
58	0	0
59	0	0
60	2.57	2.58
61	0	4.28
62	0	0
63	0	0
64	0	0
65	0.97	0.86
66	2.38	0
67	5.07	5.07
68	4.7	4.45
69	5.02	4.97
70	4.75	4.61
71	5.17	5.17
72	5.17	5.17
73	0	0
74	0	0

MODE / PIN NO.	EE	PLAY
75	0	0
76	0	1.79
77	0	2.72
78	0	4.76
79	0	0
80	0	0
81	0	0
82	4.94	4.94
83	5.03	4.98
84	0	0
85	2.69	2.67
86	0.58	0.68
87	0.17	2.36
88	0	0
89	0.54	0
90	0.1	1.36
91	2.53	2.54
92	2.54	2.53
93	0.21	0
94	2.5	2.49
95	2.5	2.49
96	2.52	2.52
97	2.52	2.52
98	5.08	5.08
99	5.17	5.17
100	2.64	1.95
IC504		
1	5.19	5.19
2	0	0
3	5.14	5.14
IC505		
1	5.19	5.19
2	0	0
3	4.7	4.7
IC601		
1	1.93	1.93
2	2.01	2.01
3	5.05	5.05
4	1.7	1.7
5	0	0
6	5.05	5.05
IC602		
1	2.51	2
2	0	0
3	2.27	2.35
4	0	0
5	0	0
6	5.06	5.06
7	2.53	2.04
8	0	0
IC801		
1	0	0
2	2.56	2.54
3	9.21	9.18
4	2.48	2.48

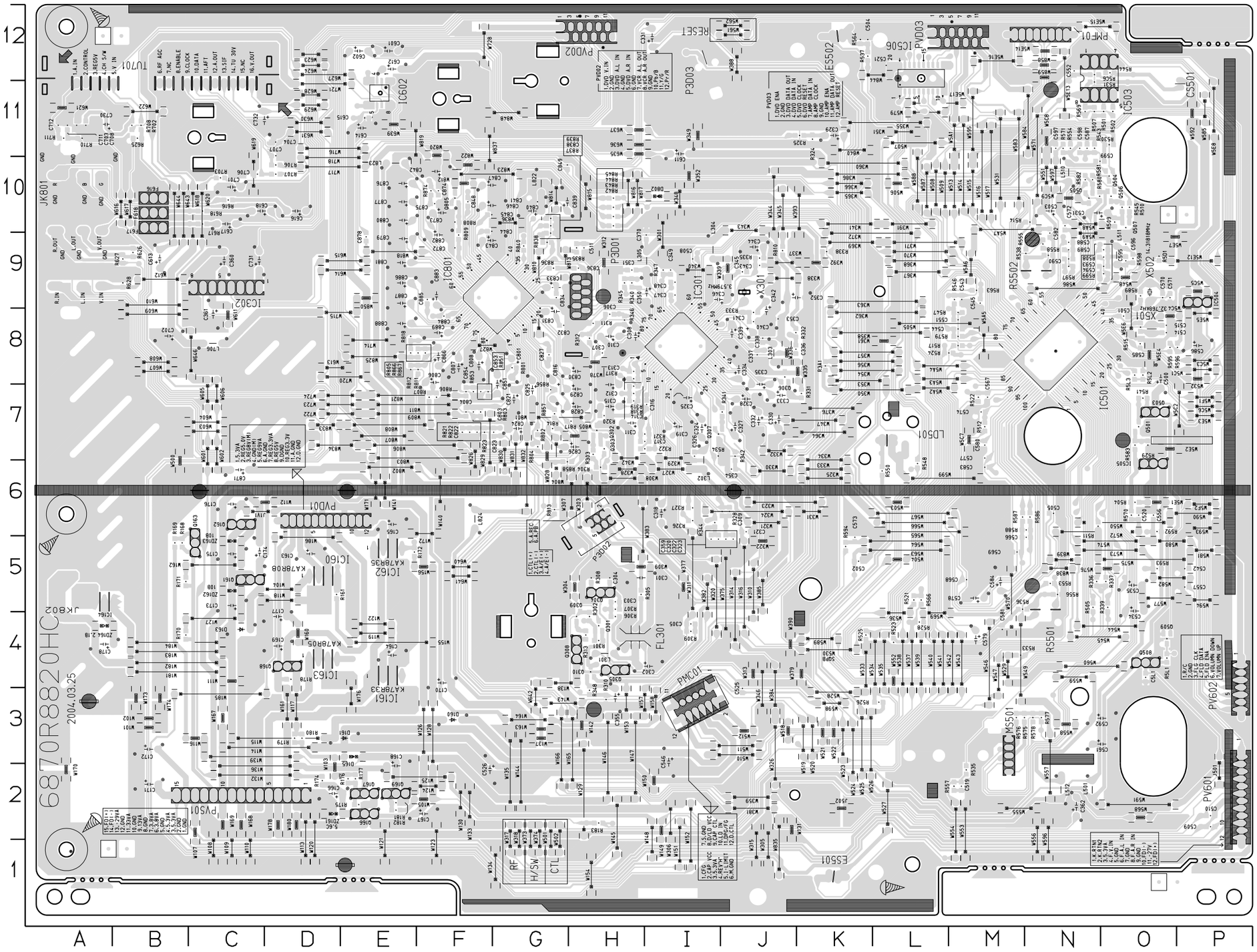
MODE / PIN NO.	EE	PLAY
5	5.19	5.19
6	1.91	2.07
7	0	0
8	0.29	1.31
9	0	0
10	0	0
11	0	0
12	2.5	2.5
13	1.91	2.44
14	2.49	2.49
15	5.06	5.05
16	2.51	2.51
17	0	0
18	0	0.86
19	2.51	2.44
20	2.52	2.45
21	2.52	2.43
22	2.51	2.42
23	0.19	3.66
24	2.25	2.3
25	0	0
26	2.24	2.3
27	2.25	2.3
28	0	0
29	2.48	0.11
30	0	1.34
31	2.51	3.79
32	5.02	5.01
33	2.64	2.65
34	2.64	2.64
35	0	0
36	5.06	5.05
37	5.17	5.05
38	5.17	5.17
39	0	2.57
40	0.19	0
41	2.52	2.45
42	2.51	2.43
43	2.52	2.45
44	2.52	2.45
45	0	0.25
46	5.06	5.05
47	2.49	2.49
48	1.9	2.42
49	0	0
50	0	0
51	2.05	2.06
52	1.22	0
53	3.86	0.25
54	9.2	9.19
55	6.26	0.28
56	1.96	0.29
57	2.2	2.15
58	4.56	0
59	2.52	2.35

MODE / PIN NO.	EE	PLAY
60	3.86	0.23
61	3.15	0.24
62	4.02	0
63	3.83	0
64	2.45	0
65	3.87	0.32
66	4.09	0.32
67	3.88	0.31
68	3.94	0.31
69	0	0
70	0	0
71	0	0
72	3.86	0.31
73	0	0
74	2.5	2.5
75	3.87	0.4
76	3.17	0.22
77	0	0
78	4.42	4.3
79	0	0
80	4.4	4.3

Location No.	Base		Emitter		Collector	
	EE	PB	EE	PB	EE	PB
Q301	4.26	4.26	4.97	4.96	4.907	4.91
Q302	0.758	1.74	0	0	0	0
Q303	0.734	0.72	0	0	0	0
Q304	0	0	0	0	0	0
Q305	4.92	4.92	4.94	4.93	0	0
Q306	1.828	1.86	2.45	2.5	0	0
Q307	1.843	2.05	2.51	2.62	0	0
Q308	5.19	5.19	4.87	4.91	4.93	4.92
Q309	0	0	0	0	4.91	4.97
Q501	0.68	0.68	0	0	0	0
Q503	5.17	5.17	4.48	4.48	5.15	5.15
Q504	2.82	2.94	2.18	2.27	4.95	4.95
Q505	1.58	1.58	1.03	2.24	4.96	4.96
Q506	5.07	0	0	0	0	3.29
Q507	2.8	2.6	0	3.23	0	0
Q805	2.56	2.56	2.08	2.08	5.06	5.05

PRINTED CIRCUIT DIAGRAMS

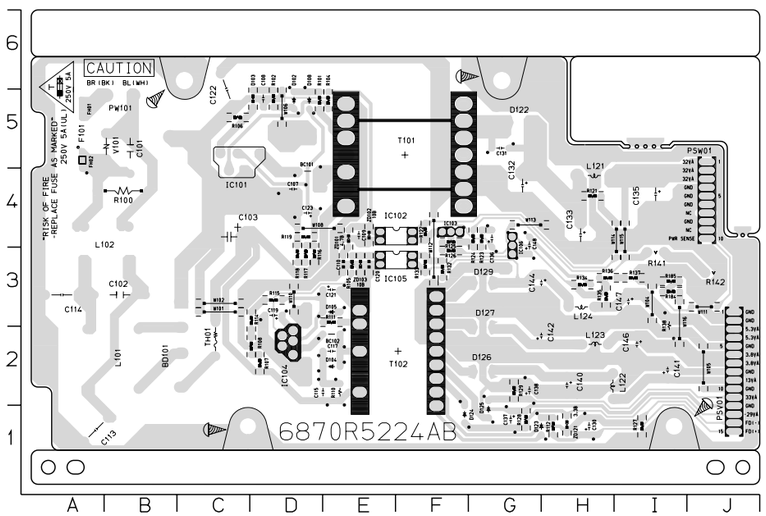
1. MAIN P.C.BOARD



LOCATION GUIDE

C163	D5	C602	E12	IC161	E4
C164	E4	C611	I11	IC162	E5
C165	E6	C612	E12	IC163	D4
C166	D2	C613	B9	IC164	A5
C167	F2	C614	E11	IC302	C9
C168	E2	C616	D10	IC503	N12
C169	D4	C617	C10	IC504	P9
C170	F4	C618	C10	IC505	O6
C171	B2	C701	C10	J501	P2
C172	B3	C702	B8	J502	K2
C173	C5	C730	A11	JK801	A10
C174	C5	C731	C9	JK802	A5
C175	C5	C732	D11	L301	H4
C176	C6	C801	G8	L302	I6
C177	D4	C806	F8	L303	J8
C178	A4	C807	F8	L304	I9
C301	H5	C808	F8	L305	I9
C302	I4	C816	G7	L501	N2
C308	H8	C821	G7	L510	N10
C310	H8	C824	G7	L511	O9
C311	H7	C825	G7	L512	N2
C312	H7	C826	H7	L706	C8
C315	H7	C828	H7	L822	G10
C318	I6	C829	H7	L823	E10
C319	I7	C830	H8	L824	F6
C324	I7	C831	G8	LD501	L7
C325	I7	C833	G9	MS501	M3
C327	J7	C839	G10	P3D01	H8
C328	J7	C840	G10	P3D02	H6
C329	K11	C842	F10	P3D03	I12
C330	J7	C843	F9	PMC01	I3
C331	I12	C846	F10	PMF01	N12
C332	J7	C847	F10	PV601	P3
C333	J7	C851	G7	PV602	P4
C334	J8	C866	F8	PVD01	D6
C335	J7	C871	C6	PVD02	G12
C339	J8	C873	F10	PVD03	L12
C340	J8	C876	E10	PVS01	D2
C342	J8	C877	E10	Q161	C5
C344	J9	C879	E9	Q162	C6
C346	I9	C880	E10	Q163	C5
C350	I9	C881	E9	Q166	E2
C352	K9	C882	F9	Q167	E2
C355	H3	C883	F9	Q168	D4
C360	C9	C886	E9	Q169	E2
C361	C8	C887	E9	Q304	H5
C362	N2	C888	E8	Q305	H4
C500	O8	C889	F8	Q308	H4
C503	N10	CS501	O11	Q503	O7
C526	F2	D160	F3	Q508	O4
C531	N10	D161	E3	RS501	N5
C534	O5	D163	C4	RS502	N9
C535	O5	D165	E3	TU701	A11
C546	I3	D802	I10	X301	J9
C561	O3	ES501	J1	X501	O8
C578	M5	ES502	L12	X502	O9
C579	M4	F616	B10	ZD161	D2
C584	M5	F617	B10	ZD162	C5
C586	P8	F618	B10	ZD163	C5
C592	O3	FL301	H4	ZD164	A4
C601	E12	IC160	D5		

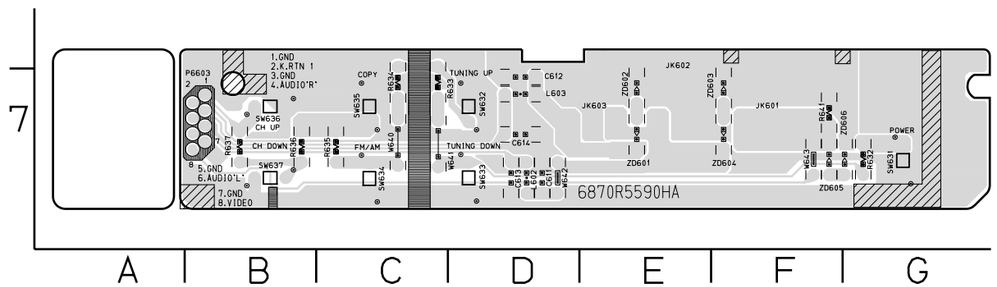
2. POWER P.C.BOARD



LOCATION GUIDE

BC101	D4	D104	E2	R111	E3
BC102	E2	D105	E3	R112	H1
BD101	B2	D108	D5	R114	D3
C101	B5	D122	G5	R115	D3
C102	B3	D123	H1	R116	D3
C103	C4	D124	F1	R117	D3
C107	D4	D125	G1	R118	D3
C108	D5	D126	G2	R119	D4
C109	E4	D127	G2	R121	H4
C110	E3	D129	G3	R122	F4
C113	A1	FH01	A5	R123	G4
C114	A3	FH02	A5	R124	G4
C115	E2	IC101	C5	R125	F4
C117	E2	IC102	F4	R126	F3
C119	D3	IC103	F4	R127	I1
C120	E3	IC104	D2	R128	G1
C121	E3	IC105	F3	R129	G2
C122	C5	IC106	G4	R132	F3
C123	D4	L101	B2	R133	F3
C130	H1	L102	B4	R134	H3
C131	G5	L121	H4	R135	H3
C132	G4	L122	H2	R136	H3
C133	H4	L123	H2	R137	I3
C135	I4	L124	H3	R138	I3
C136	G4	PSV01	J3	R141	I3
C137	G1	PSW01	J5	R142	J3
C138	G2	PW101	B5	R184	I3
C140	H2	R100	B4	R185	I3
C141	I2	R101	D5	T101	F5
C142	H2	R102	D5	T102	F2
C144	H3	R104	E5	TH01	C2
C146	I2	R105	E3	V101	B5
C147	I3	R106	C5	ZD101	E4
C148	G4	R107	D2	ZD102	E4
D102	D5	R108	D2	ZD103	E3
D103	D5	R110	E2	ZD121	H1

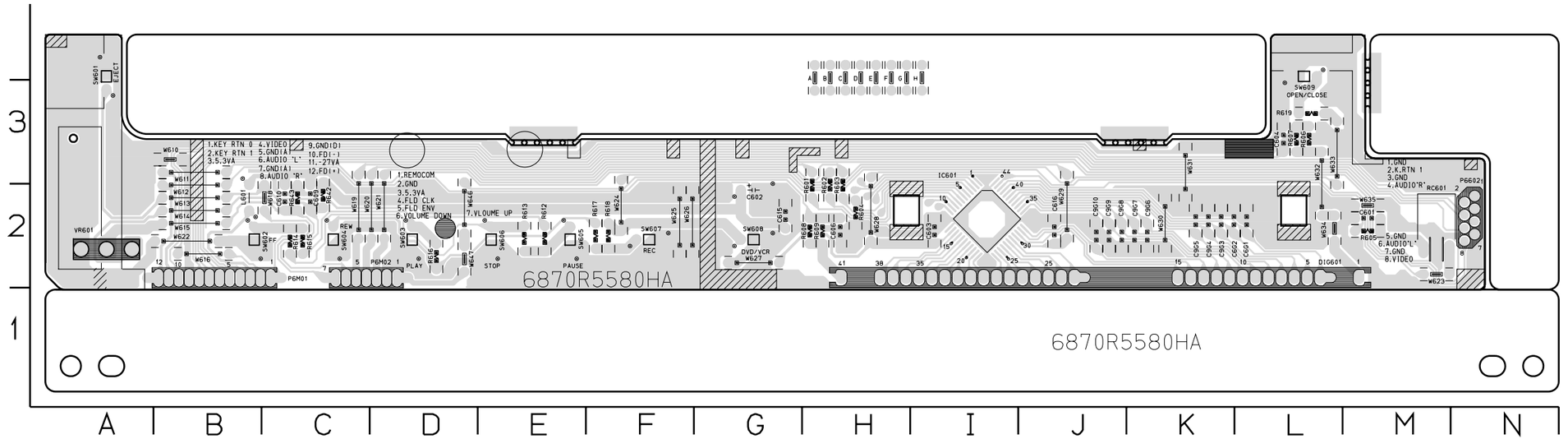
3. KEY 1(LEFT) P.C.BOARD



LOCATION GUIDE

C611	D7	R637	B7
C612	D7	R641	F7
C613	D7	SW631	G7
C614	D7	SW632	D7
JK601	F7	SW633	D7
JK602	E7	SW634	C7
JK603	E7	SW635	C7
L602	D7	SW636	B7
L603	D7	SW637	B7
P6603	B7	ZD601	E7
R632	G7	ZD602	E7
R633	C7	ZD603	F7
R634	C7	ZD604	F7
R635	C7	ZD605	F7
R636	B7	ZD606	G7

4. KEY 2(RIGHT) P.C.BOARD

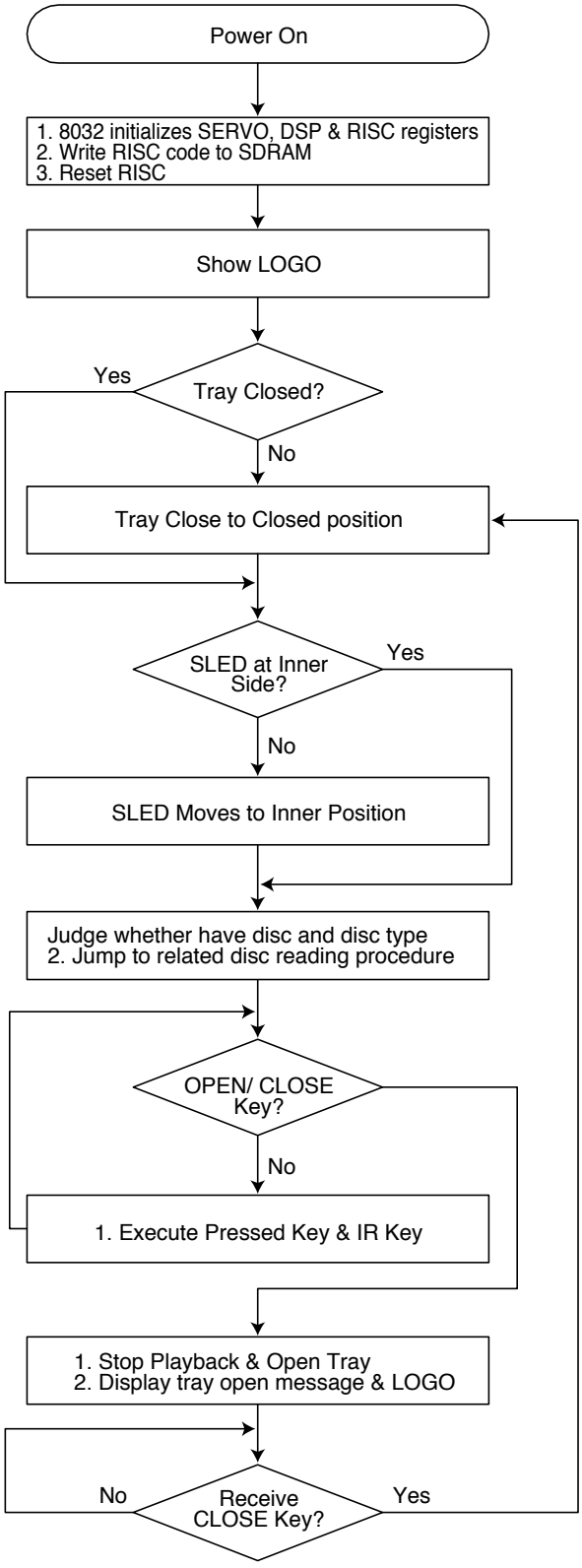


LOCATION GUIDE

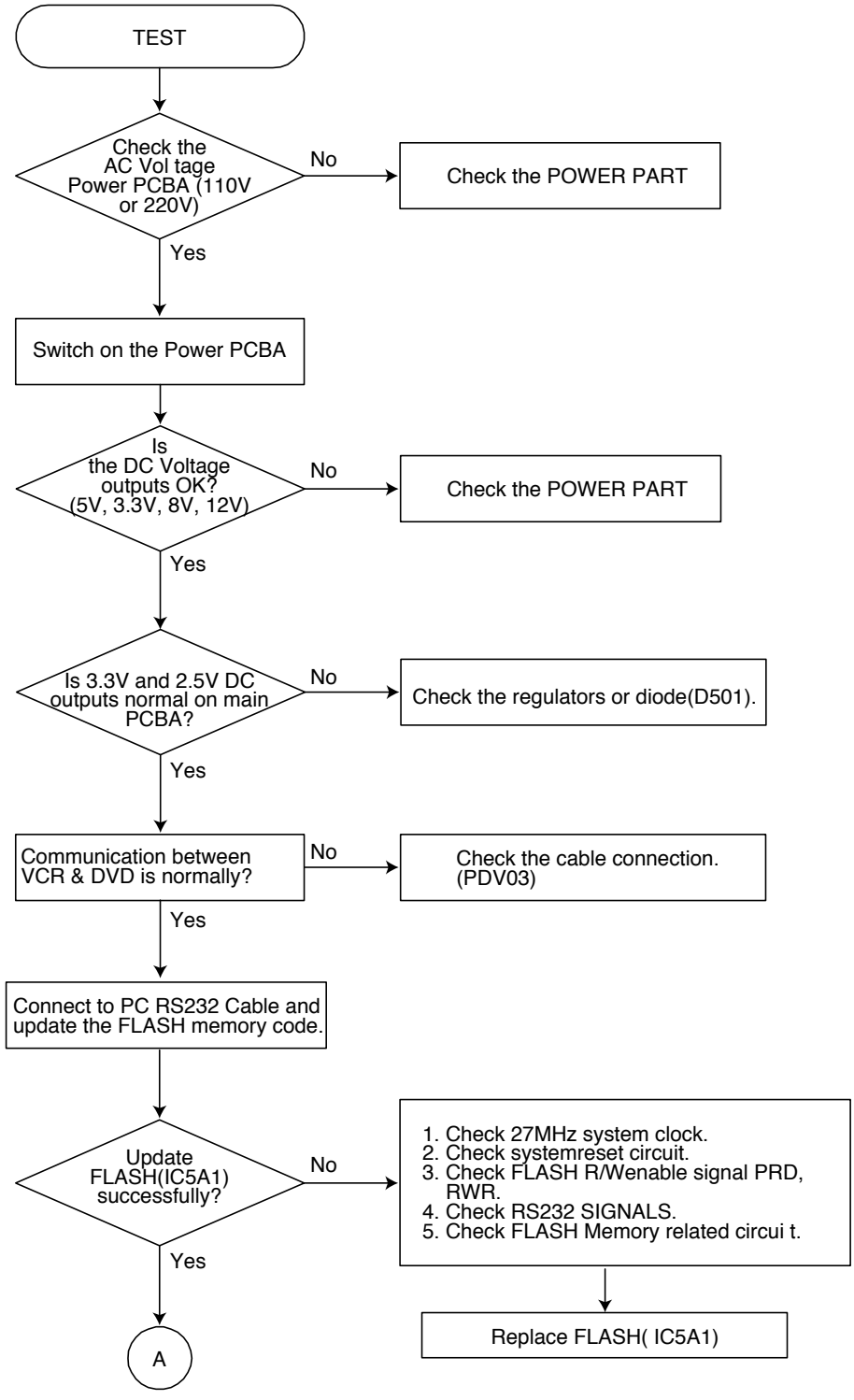
C601	M2	R604	H2
C602	G2	R605	M2
C603	I2	R606	L3
C604	L3	R607	L3
C606	H2	R608	H2
C609	C2	R609	H2
C610	C2	R612	E2
C615	G2	R613	E2
C616	J2	R614	C2
C6G1	L2	R615	C2
C6G2	K2	R616	D2
C9G10	J2	R617	F2
C9G3	K2	R618	F2
C9G4	K2	R619	L3
C9G5	K2	R642	C2
C9G6	K2	R643	C2
C9G7	K2	RC601	M2
C9G8	J2	SW601	A4
C9G9	J2	SW602	B2
DIG601	M2	SW603	D2
L601	B2	SW604	C2
P6602	N2	SW605	E2
P6M01	C2	SW606	E2
P6M02	D2	SW607	F2
R601	H2	SW608	G2
R602	H2	SW609	L4
R603	H2	VR601	A2

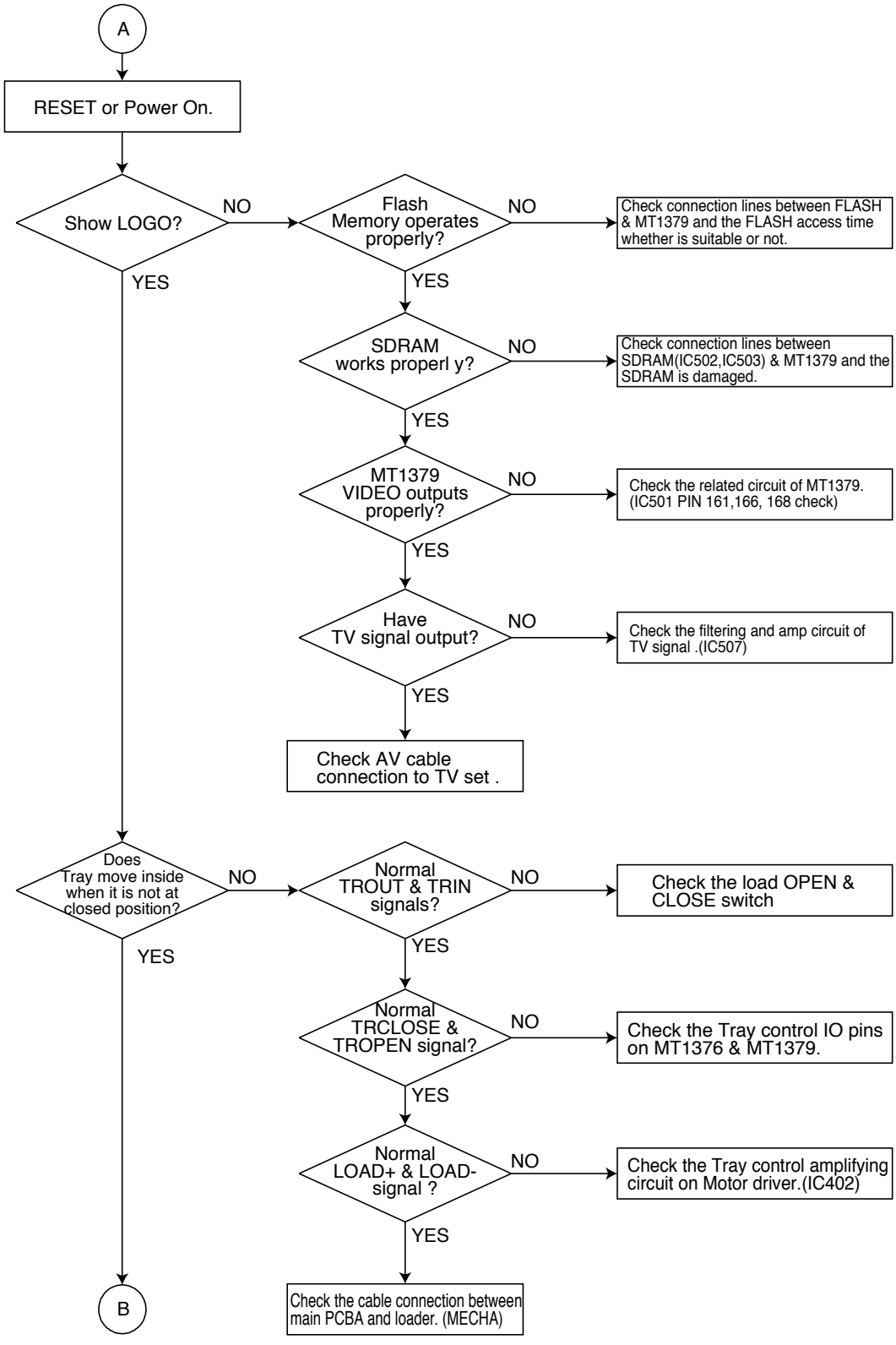
DVD & AMP PART
ELECTRICAL TROUBLESHOOTING GUIDE

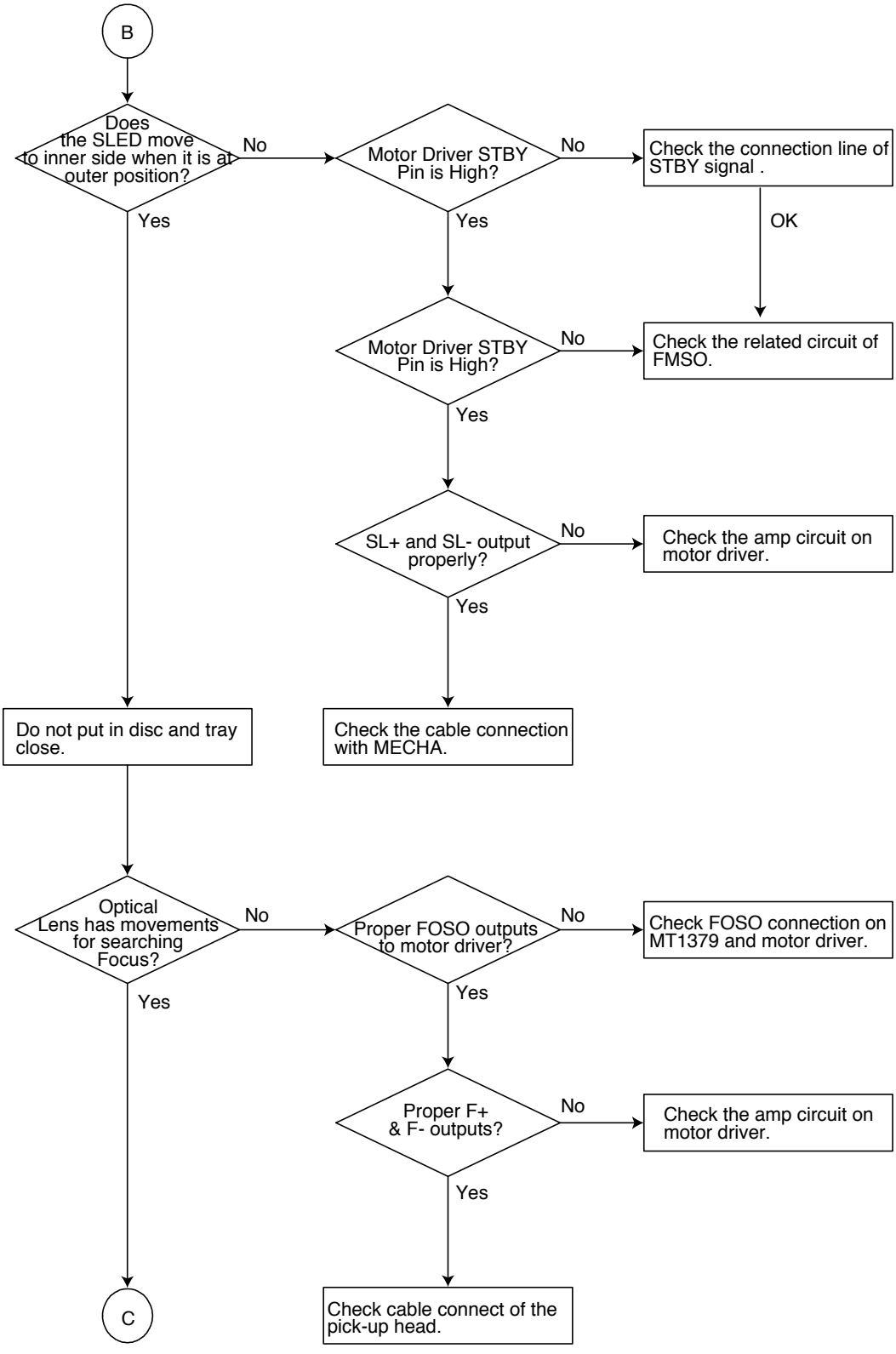
1. System operation flow

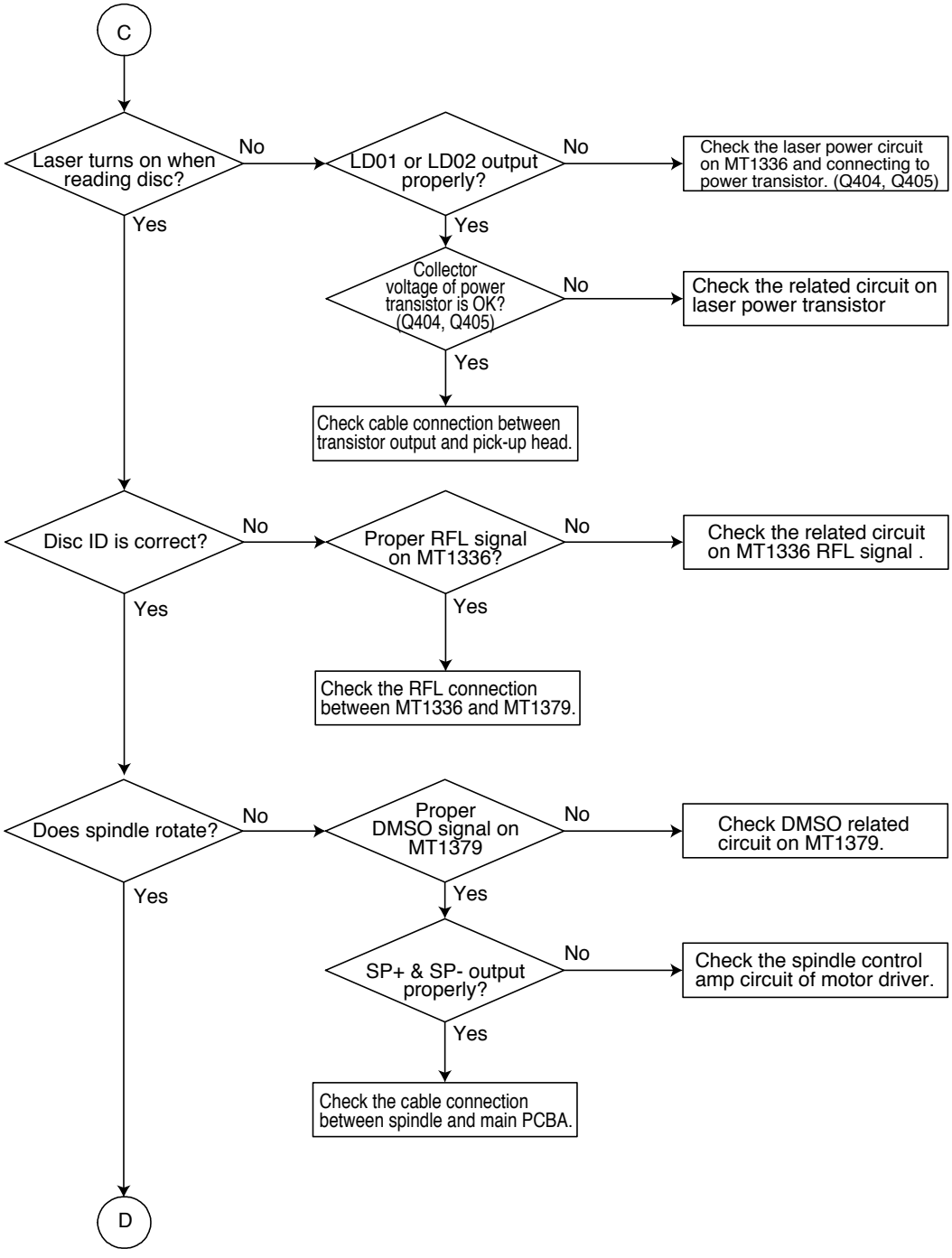


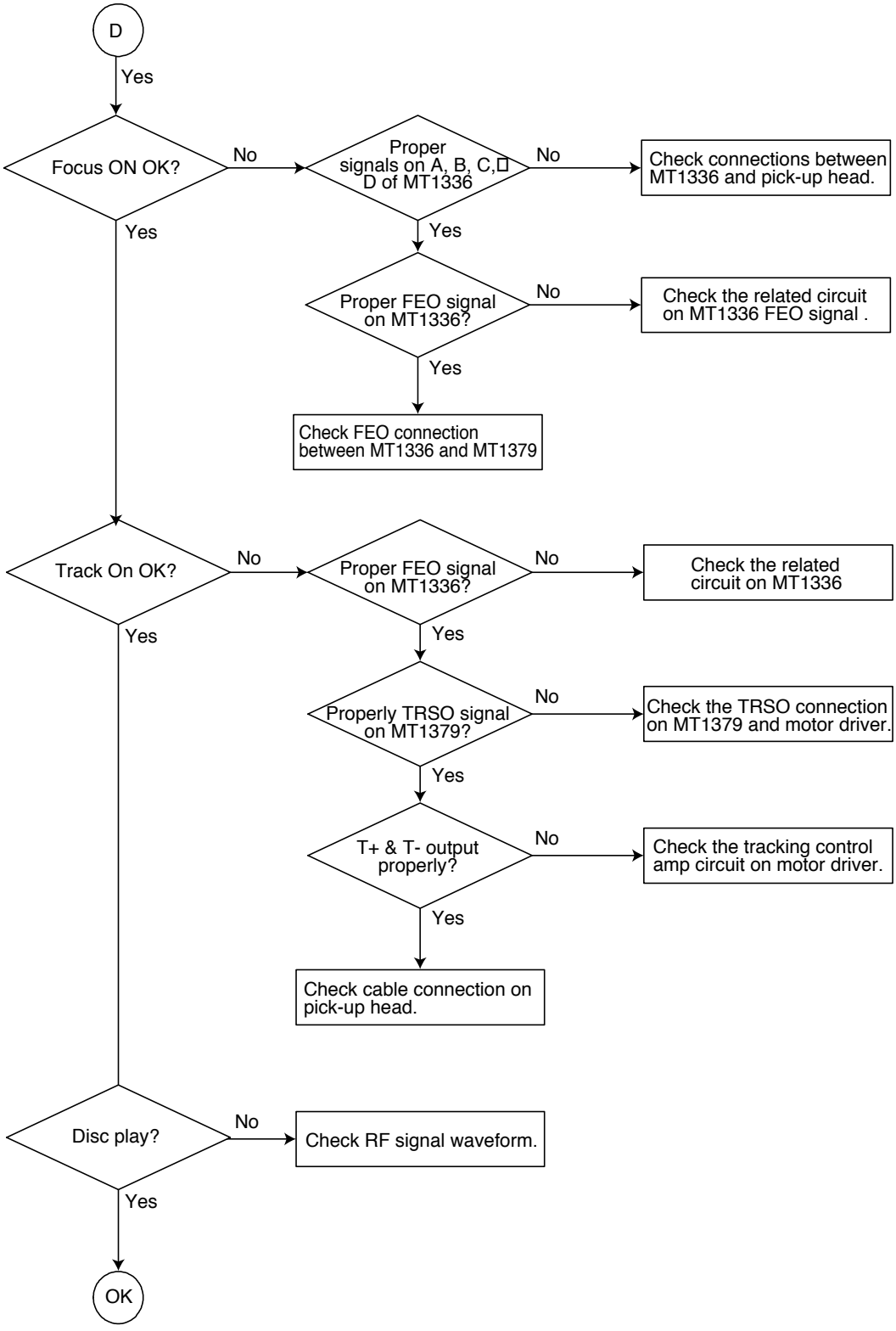
2. Test & debug flow

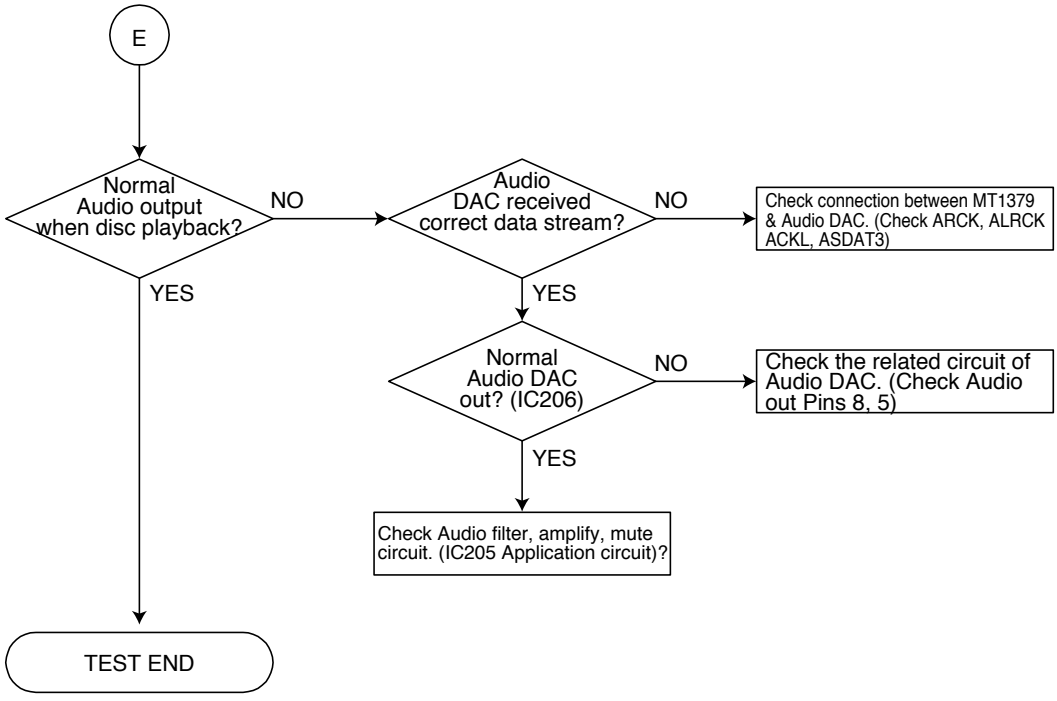

TEST
Check the AC Vol tage Power PCBA (110V or 220V)
No
Check the POWER PART
Yes
Switch on the Power PCBA
Is the DC Voltage outputs OK? (5V, 3.3V, 8V, 12V)
No
Check the POWER PART
Yes
Is 3.3V and 2.5V DC outputs normal on main PCBA?
No
Check the regulators or diode(D501).
Yes
Communication between VCR & DVD is normally?
No
Check the cable connection. (PDV03)
Yes
Connect to PC RS232 Cable and update the FLASH memory code.
Update FLASH(IC5A1) successfully?
No
1. Check 27MHz system clock.
2. Check systemreset circuit.
3. Check FLASH R/Wenable signal PRD, RWR.
4. Check RS232 SIGNALS.
5. Check FLASH Memory related circui t.
Replace FLASH(IC5A1)
Yes
A


A
RESET or Power On.
Show LOGO?
NO
YES
Flash Memory operates properly?
NO
Check connection lines between FLASH & MT1379 and the FLASH access time whether is suitable or not.
YES
SDRAM works properl y?
NO
Check connection lines between SDRAM(IC502,IC503) & MT1379 and the SDRAM is damaged.
YES
MT1379 VIDEO outputs properly?
NO
Check the related circuit of MT1379. (IC501 PIN 161,166, 168 check)
YES
Have TV signal output?
NO
Check the filtering and amp circuit of TV signal .(IC507)
YES
Check AV cable connection to TV set .
Does Tray move inside when it is not at closed position?
NO
YES
Normal TROUT & TRIN signals?
NO
Check the load OPEN & CLOSE switch
YES
Normal TRCLOSE & TROPEN signal?
NO
Check the Tray control IO pins on MT1376 & MT1379.
YES
Normal LOAD+ & LOAD- signal ?
NO
Check the Tray control amplifying circuit on Motor driver.(IC402)
YES
Check the cable connection between main PCBA and loader. (MECHA)
B

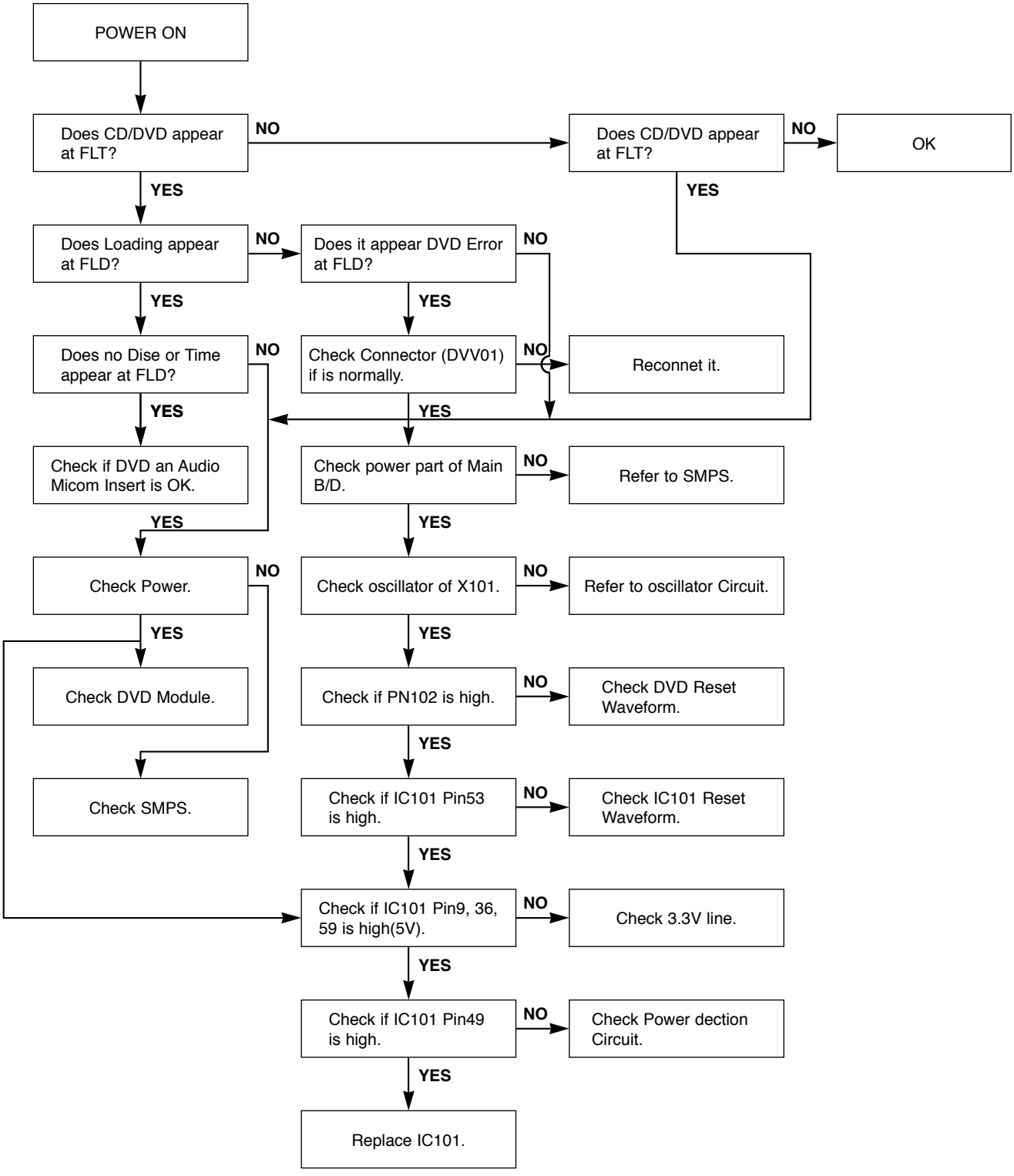

B
Does the SLED move to inner side when it is at outer position?
No
Yes
Motor Driver STBY Pin is High?
No
Yes
Check the connection line of STBY signal .
OK
Motor Driver STBY Pin is High?
No
Yes
Check the related circuit of FMSO.
SL+ and SL- output properly?
No
Yes
Check the amp circuit on motor driver.
Do not put in disc and tray close.
Check the cable connection with MECHA.
Optical Lens has movements for searching Focus?
No
Yes
Proper FOSO outputs to motor driver?
No
Yes
Check FOSO connection on MT1379 and motor driver.
Proper F+ & F- outputs?
No
Yes
Check the amp circuit on motor driver.
C
Check cable connect of the pick-up head.


C
Laser turns on when reading disc?
No
LD01 or LD02 output properly?
No
Check the laser power circuit on MT1336 and connecting to power transistor. (Q404, Q405)
Yes
Yes
Collector voltage of power transistor is OK? (Q404, Q405)
No
Check the related circuit on laser power transistor
Yes
Check cable connection between transistor output and pick-up head.
Disc ID is correct?
No
Proper RFL signal on MT1336?
No
Check the related circuit on MT1336 RFL signal .
Yes
Yes
Check the RFL connection between MT1336 and MT1379.
Does spindle rotate?
No
Proper DMSO signal on MT1379
No
Check DMSO related circuit on MT1379.
Yes
Yes
SP+ & SP- output properly?
No
Check the spindle control amp circuit of motor driver.
Yes
Check the cable connection between spindle and main PCBA.
D


D
Yes
Focus ON OK?
No
Proper signals on A, B, C, D of MT1336
No
Check connections between MT1336 and pick-up head.
Yes
Yes
Proper FEO signal on MT1336?
No
Check the related circuit on MT1336 FEO signal .
Yes
Check FEO connection between MT1336 and MT1379
Track On OK?
No
Proper FEO signal on MT1336?
No
Check the related circuit on MT1336
Yes
Yes
Properly TRSO signal on MT1379?
No
Check the TRSO connection on MT1379 and motor driver.
Yes
T+ & T- output properly?
No
Check the tracking control amp circuit on motor driver.
Yes
Check cable connection on pick-up head.
Disc play?
No
Check RF signal waveform.
Yes
OK


E
Normal Audio output when disc playback?
NO
Audio DAC received correct data stream?
NO
Check connection between MT1379 & Audio DAC. (Check ARCK, ALRCK ACKL, ASDAT3)
YES
YES
Normal Audio DAC out? (IC206)
NO
Check the related circuit of Audio DAC. (Check Audio out Pins 8, 5)
YES
Check Audio filter, amplify, mute circuit. (IC205 Application circuit)?
TEST END

3. AUDIO μ-COM Circuit(DVD & AMP)



DETAILS AND WAVEFORMS ON SYSTEM TEST AND DEBUGGING

1. SYSTEM 27MHz CLOCK,RESET,FLASH R/W SIGNAL

1) MT1379 main clock is at 27MHz(X501)

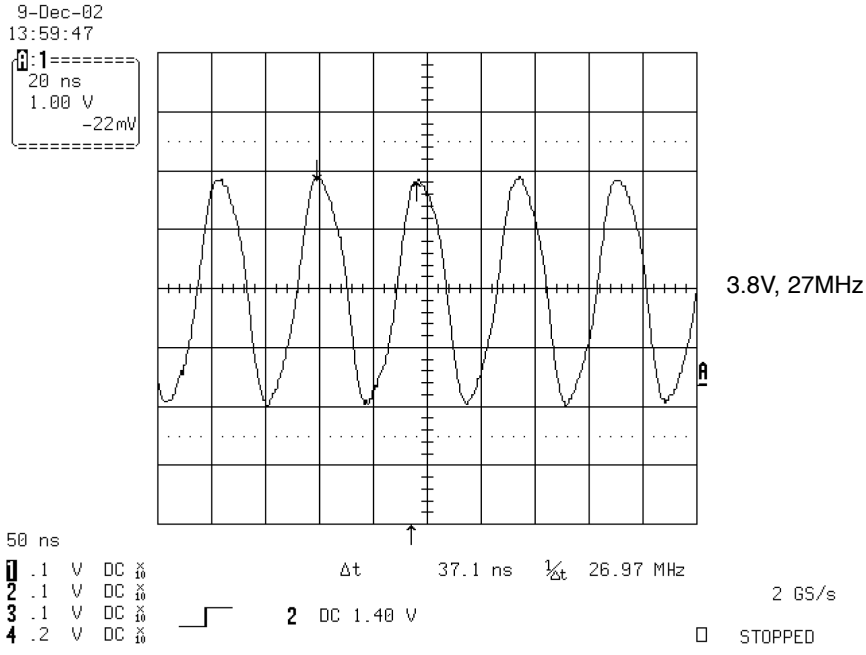


FIG 1-1

2) MT1379 & MT1336 reset is high active.

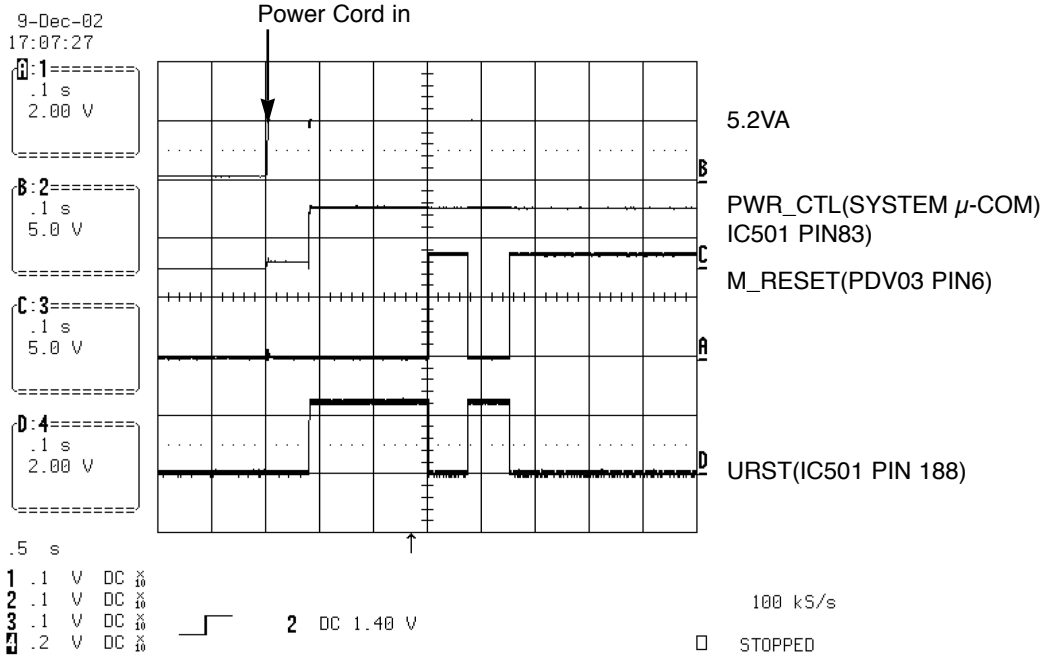


FIG 1-2

3) RS232 waveform during procedure(Downloading)

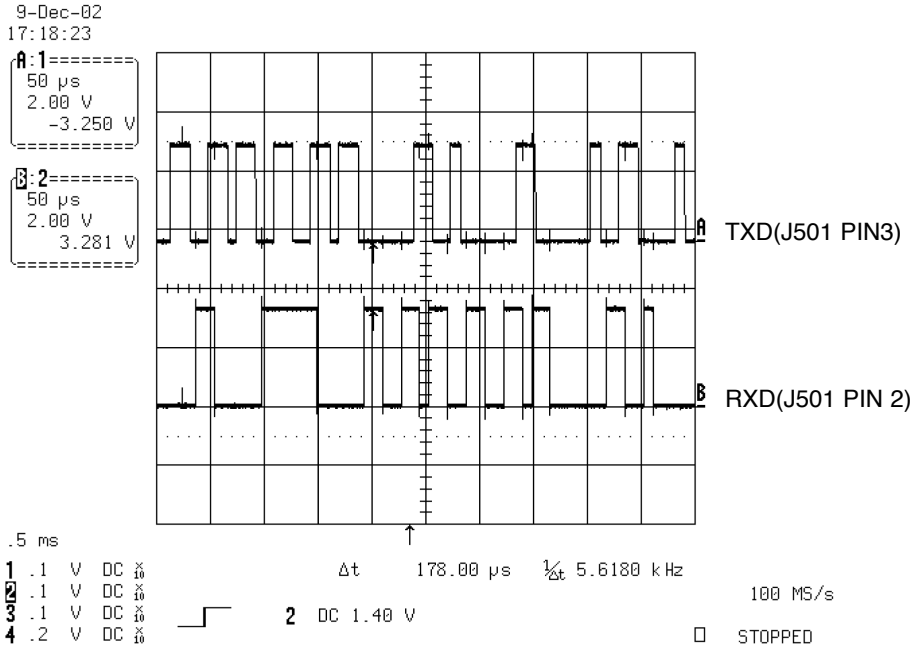


FIG 1-3

4) Flash R/W enable signal during download(Downloading)

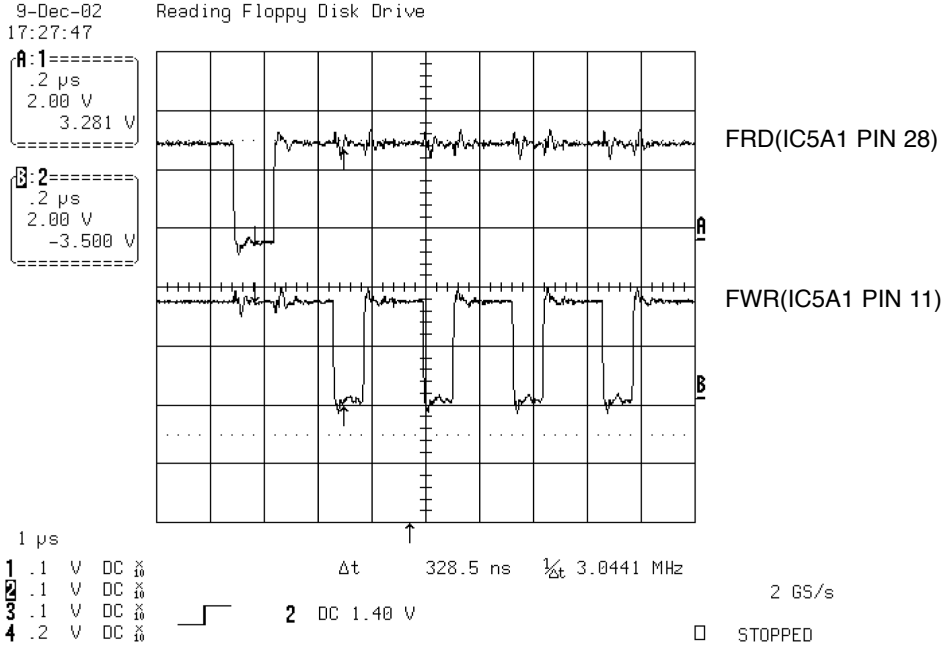


FIG 1-4

2. SDRAM CLOCK

1) MT1379 main clock is at 27MHz(X501)

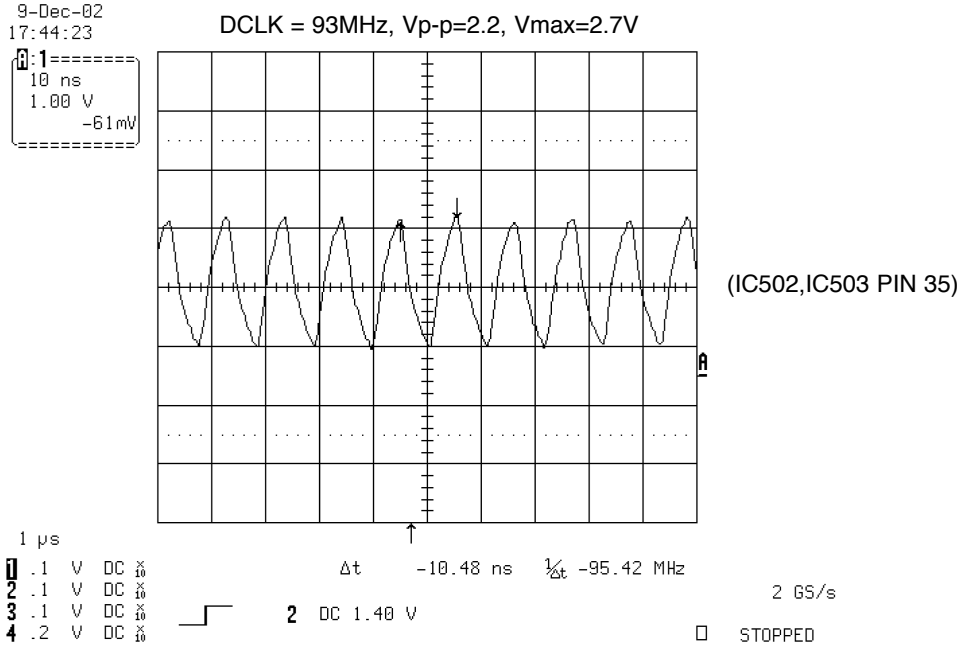


FIG 2-1

3. TRAY OPEN/CLOSE SIGNAL

1) Tray open/close waveform

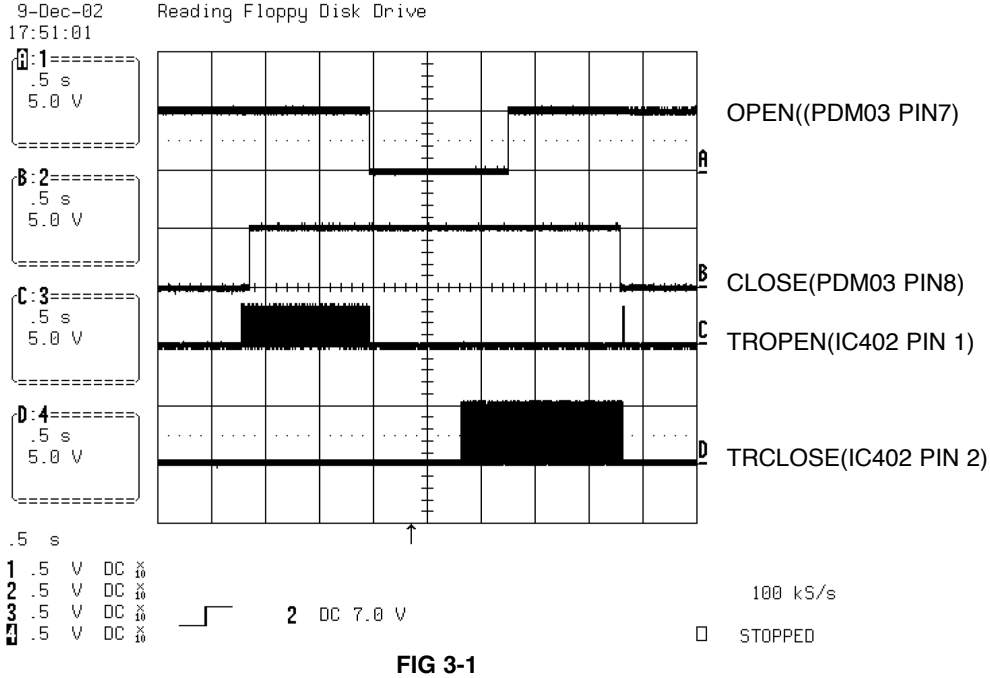


FIG 3-1

2) Tray close waveform

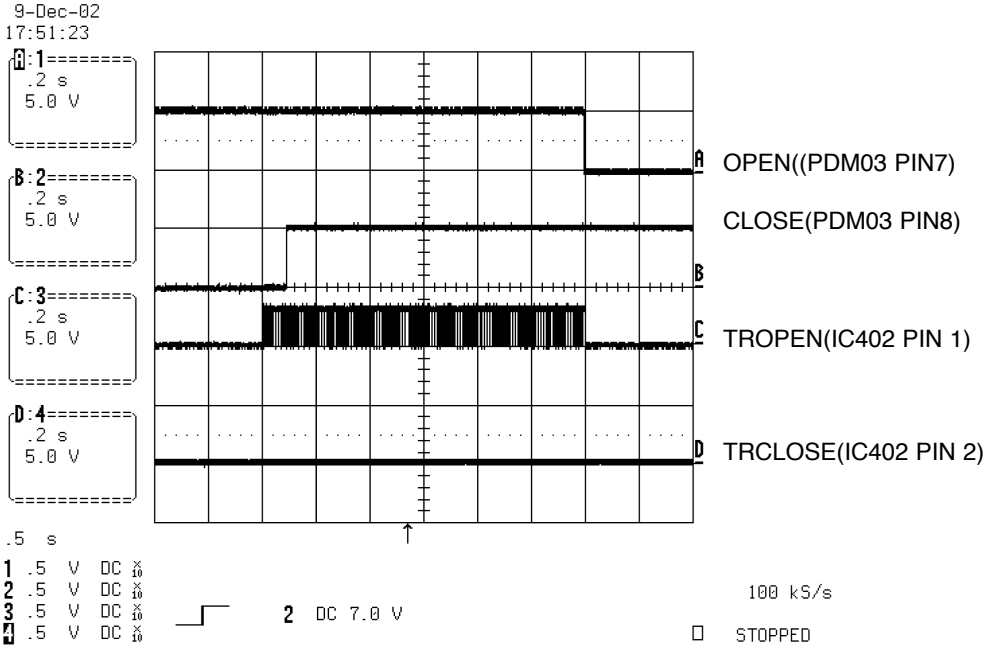


FIG 3-2

3) Tray open waveform

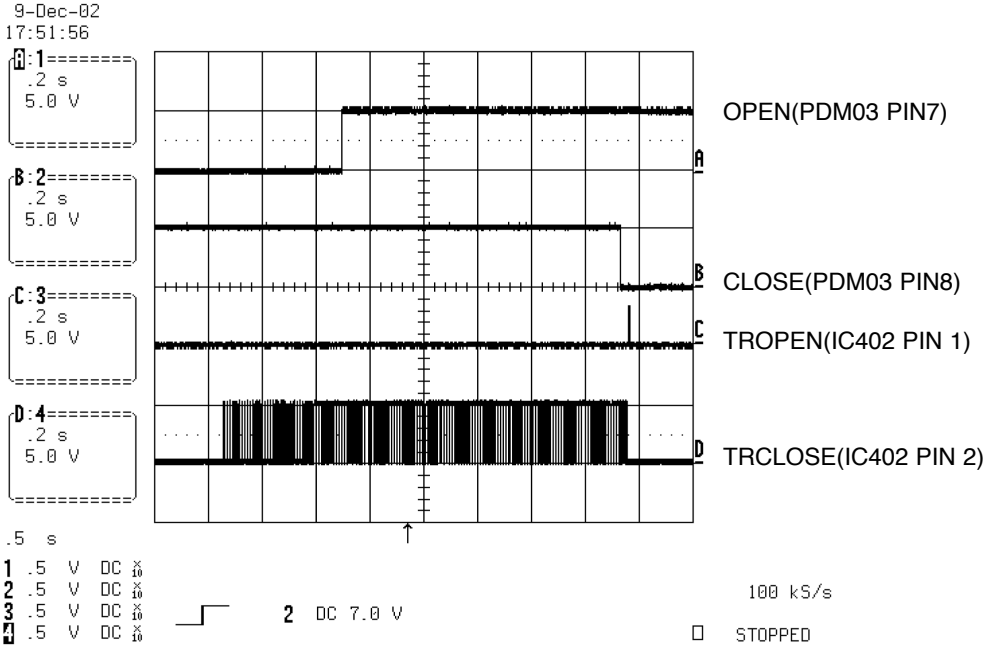
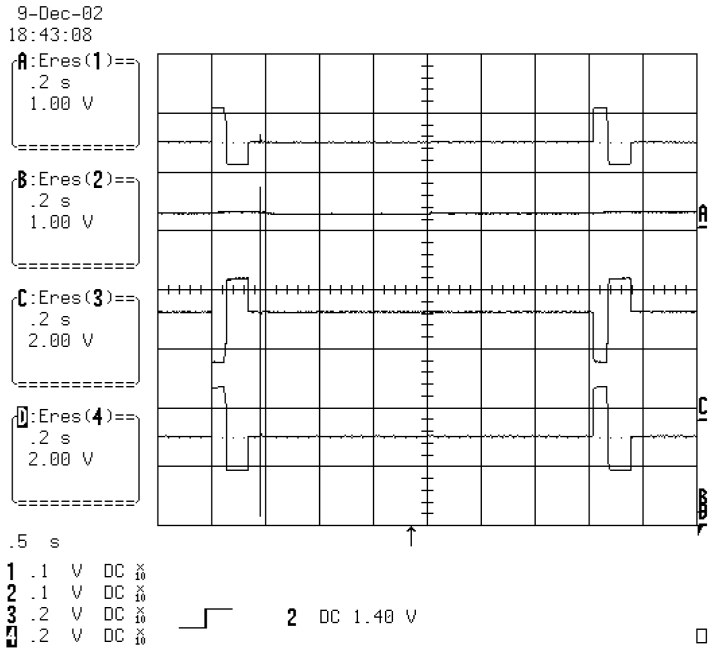


FIG 3-3

4. SLED CONTROL RELATED SIGNAL (NO DISC CONDITION)



FMSO(2.0V/1.4V/1.0V)
(IC501 PIN 19)

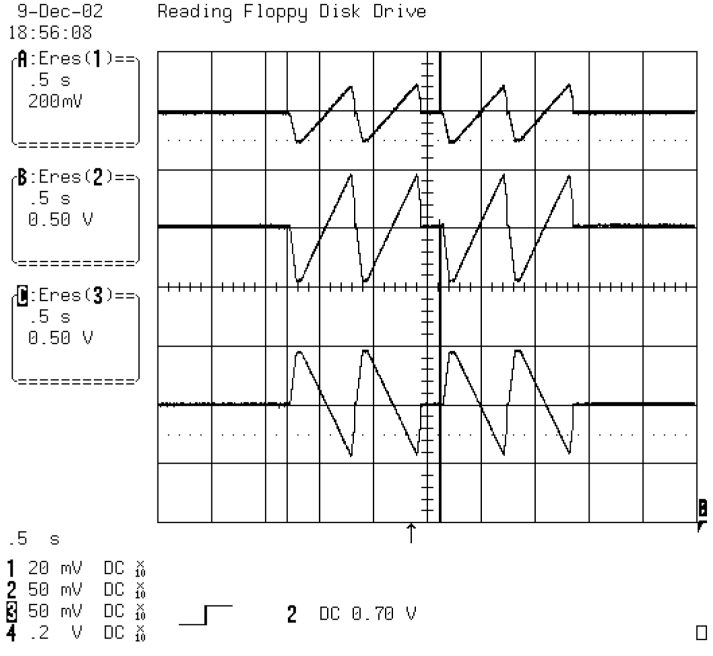
STBY(5V) – (IC401 PIN 50)

SL+(4.7V/3.6V/1.9V)
(IC402 PIN 12)

SL-(5.3V/3.7V/2.5V)
(IC402 PIN 13)

FIG 4-1

5. LENS CONTROL RELATED SIGNAL(NO DISC CONDITION)



FOSO(1.5V/1.4V/1.3V)
(IC501 PIN 12)

F+(4.0V/3.6V/3.2V)
(IC402 PIN 9)

F-(4.0V/3.6V/3.2V)
(IC402 PIN 8)

FIG 5-1

6. LASER POWER CONTROL RELATED SIGNAL(NO DISC CONDITION)

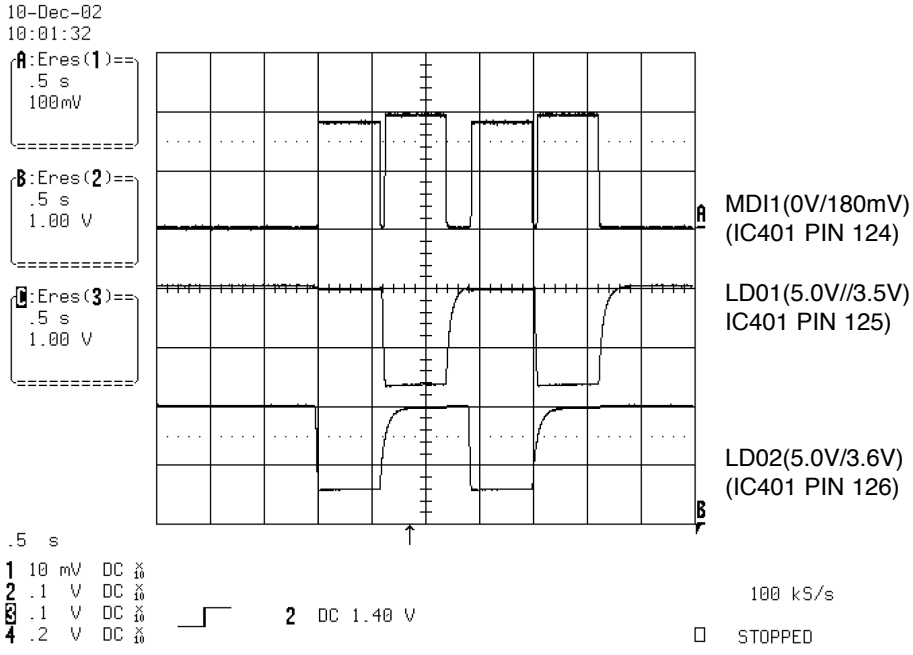


FIG 6-1

7. DISC TYPE JUDGEMENT WAVEFORMS

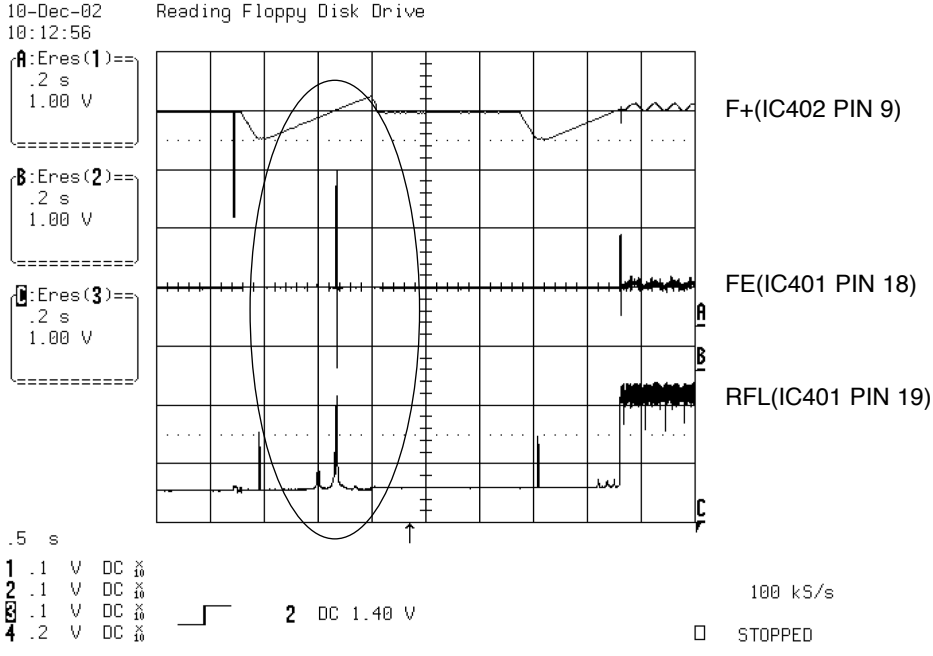


FIG 7-1 (DVD)

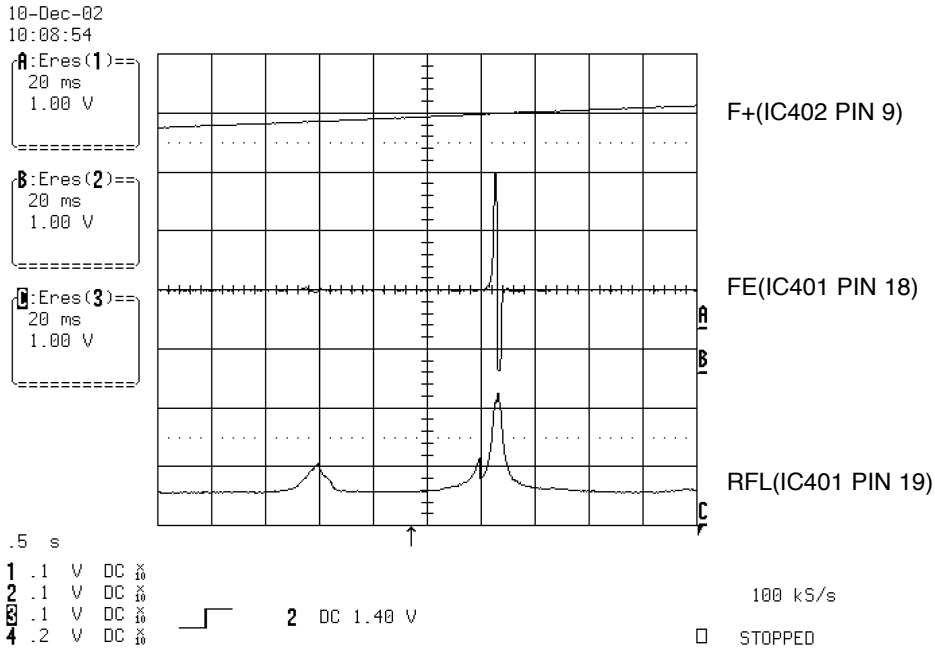


FIG 7-2 (DVD)

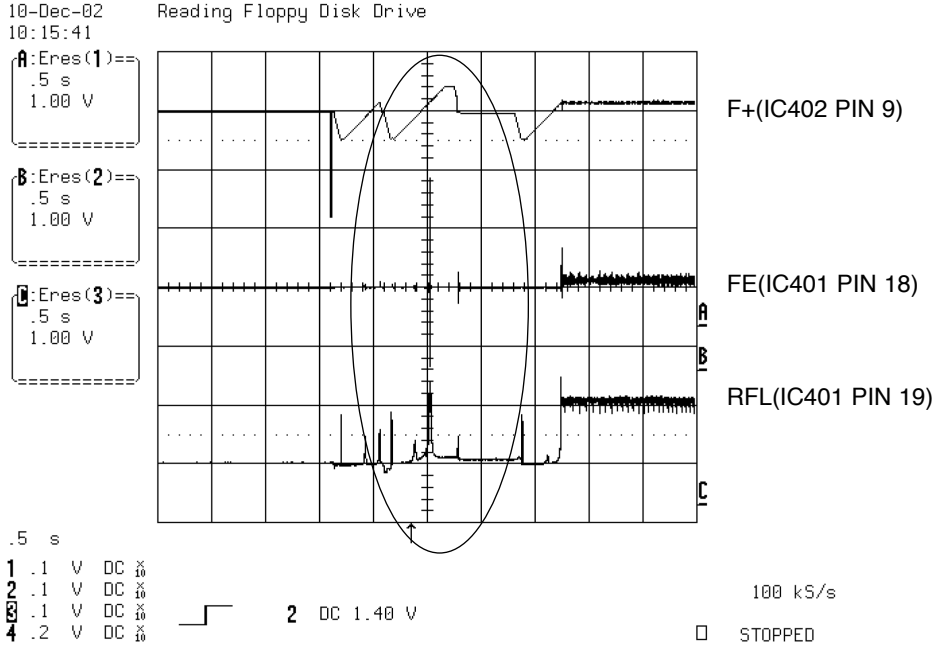


FIG 7-3 (CD)

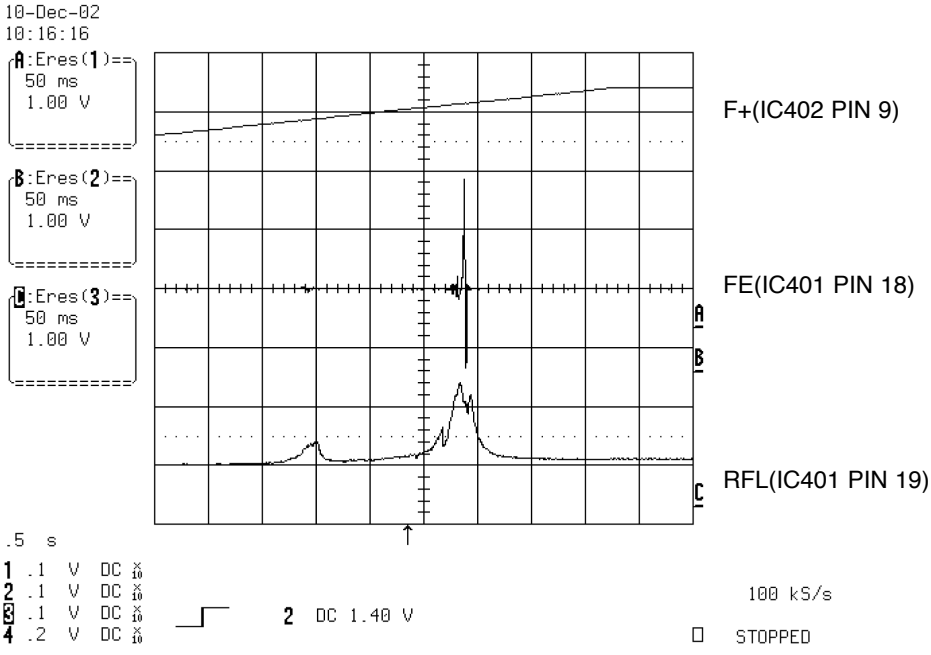


FIG 7-4 (CD)

8. FOCUS ON WAVEFORMS

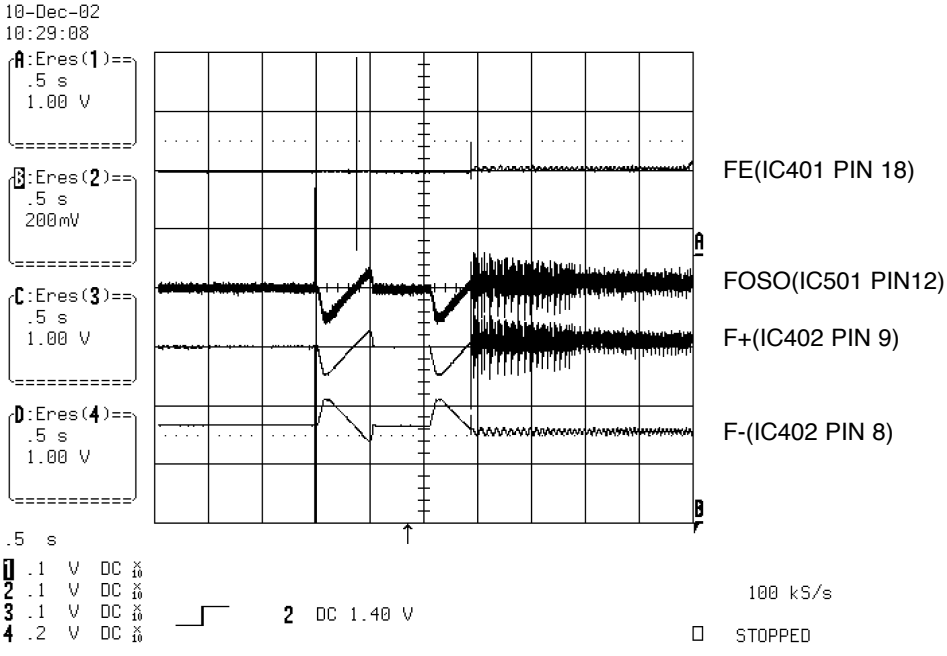


FIG 8-1 (DVD)

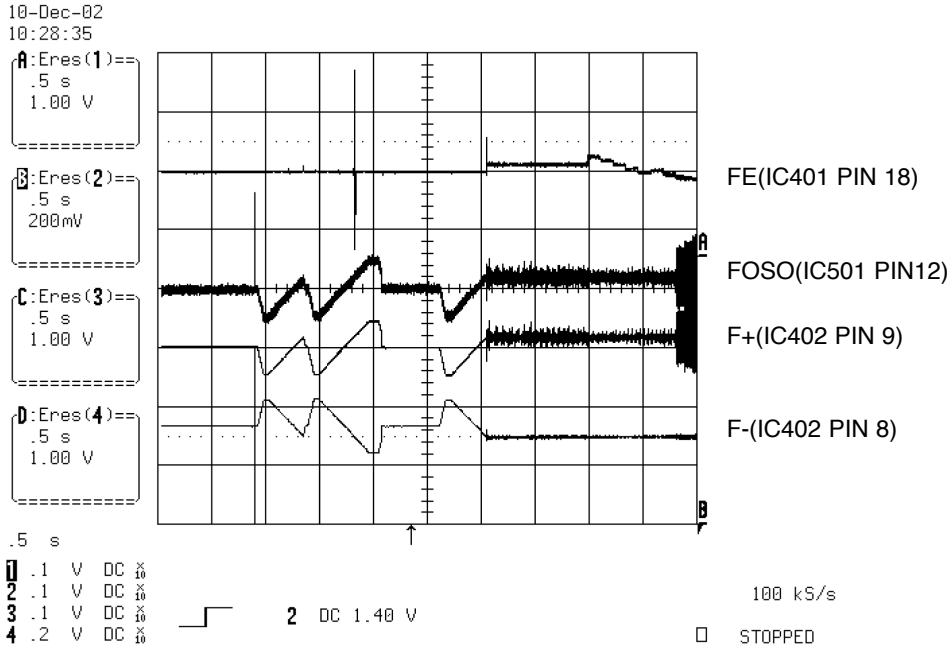


FIG 8-2 (CD)

9. SPINDLE CONTROL WAVEFORMS (NO DISC CONDITION)

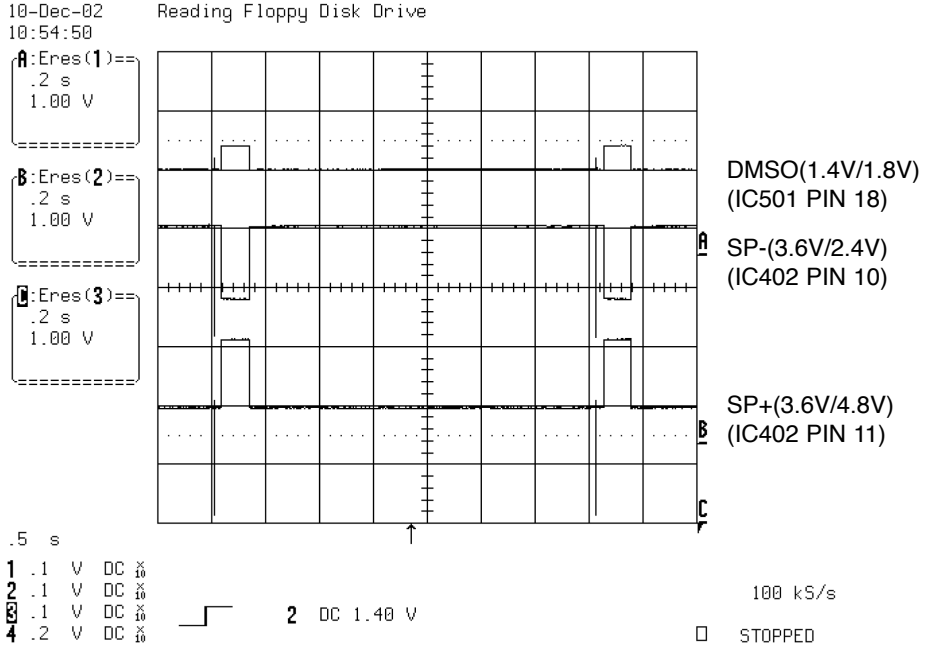


FIG 9-1

10. TRACKING CONTROL RELATED SIGNAL(System checking)

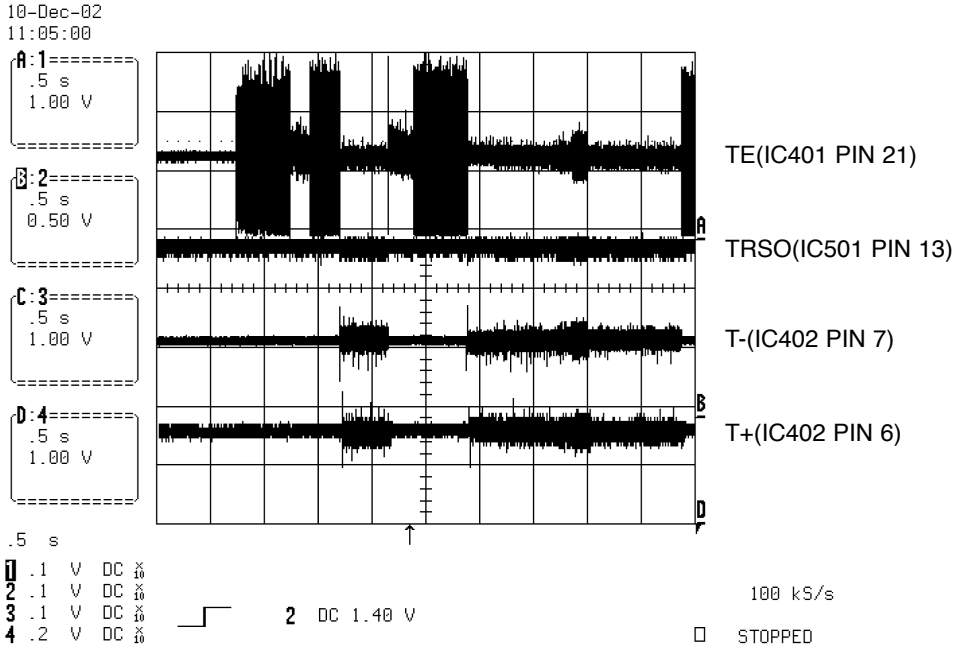


FIG 10-1(DVD)

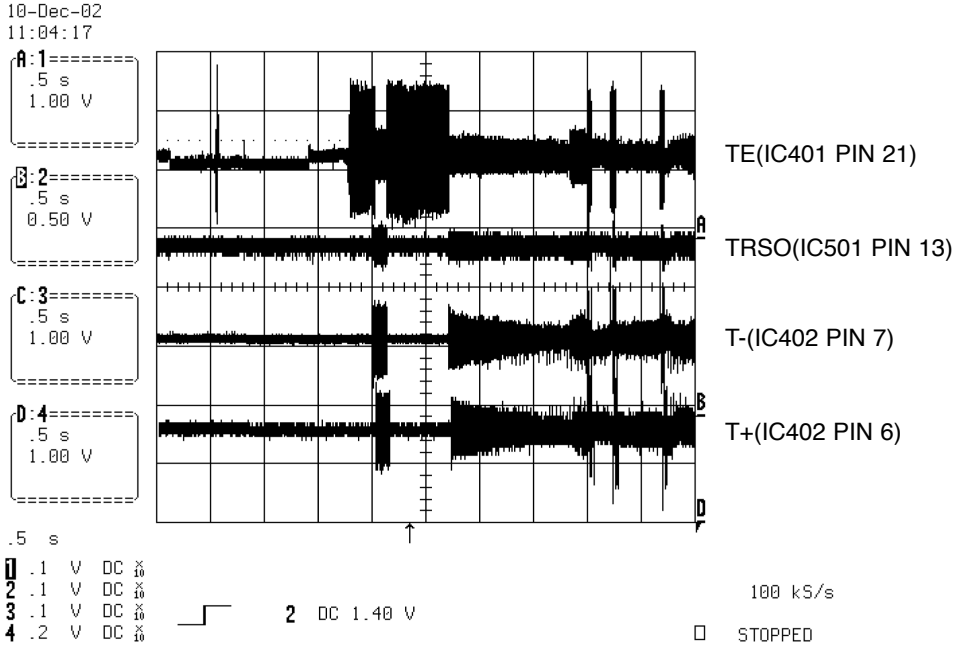


FIG 10-2(CD)

11. RF WAVEFORM

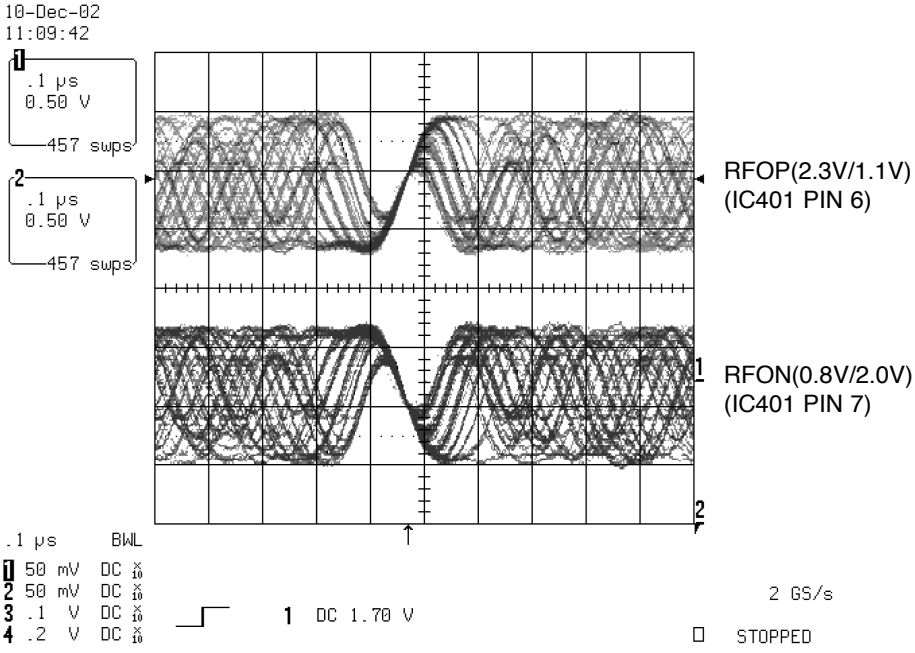


FIG 11-1

12. MT1379 VIDEO OUTPUT WAVEFORMS

1) Full colorbar signal(CVBS)

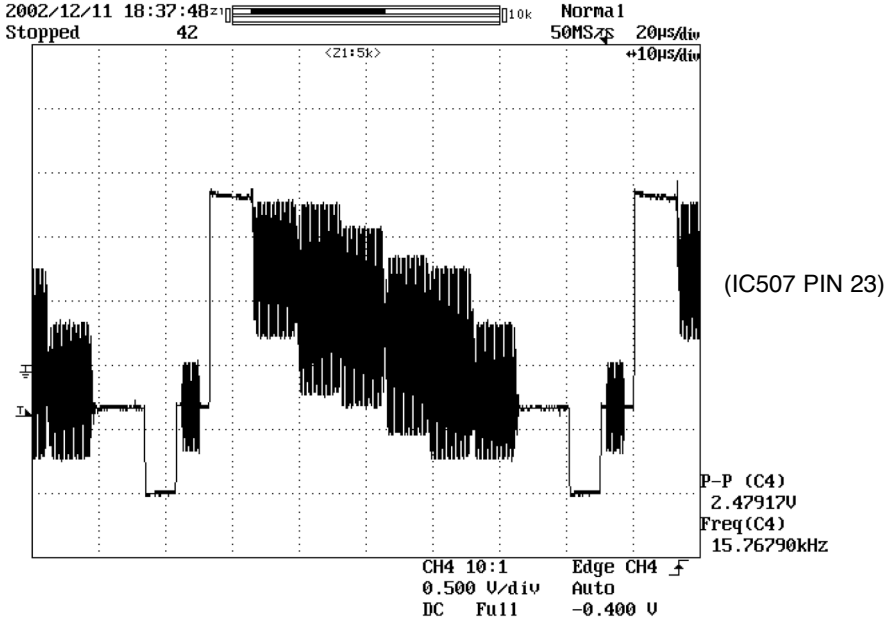
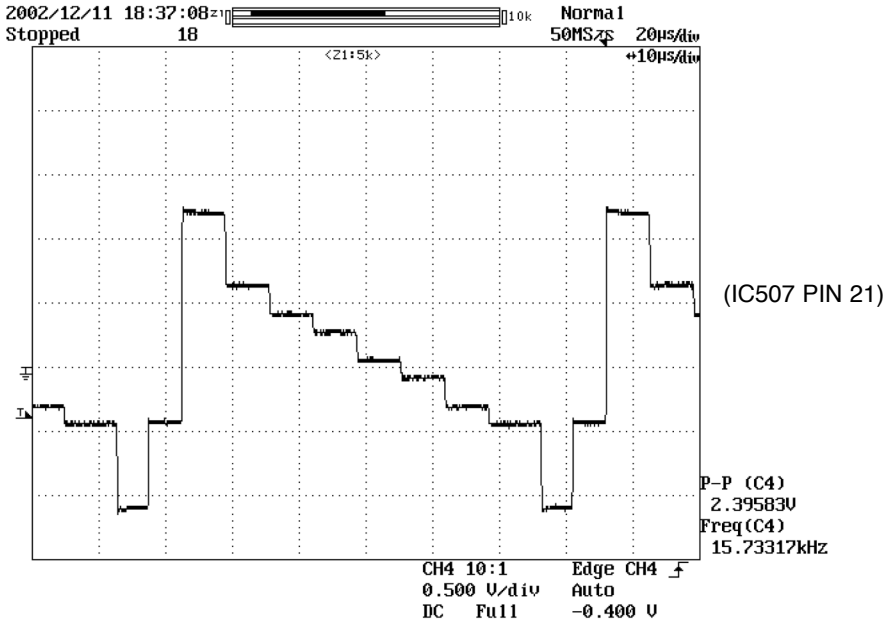


FIG 12-1

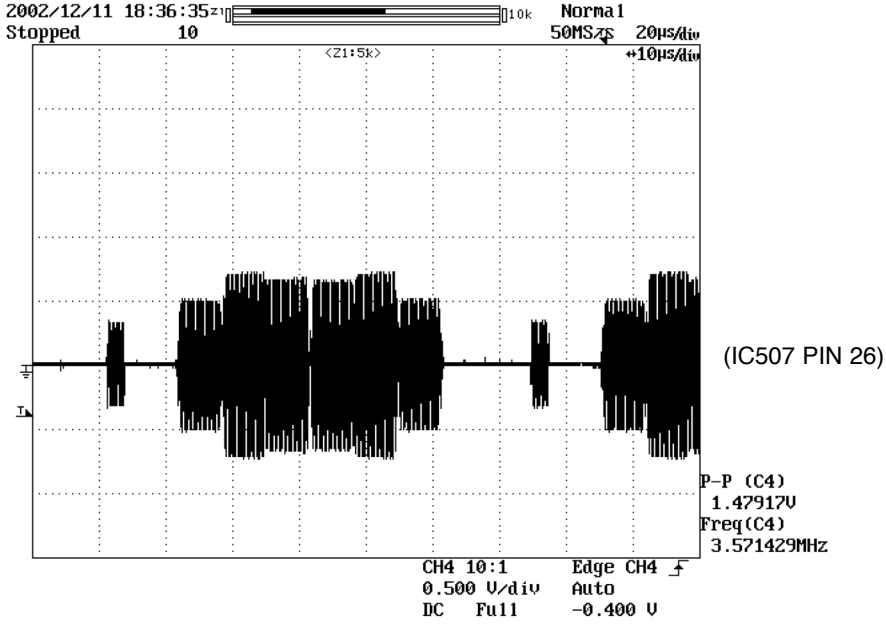
2) Y



(IC507 PIN 21)

FIG 12-2

3) C

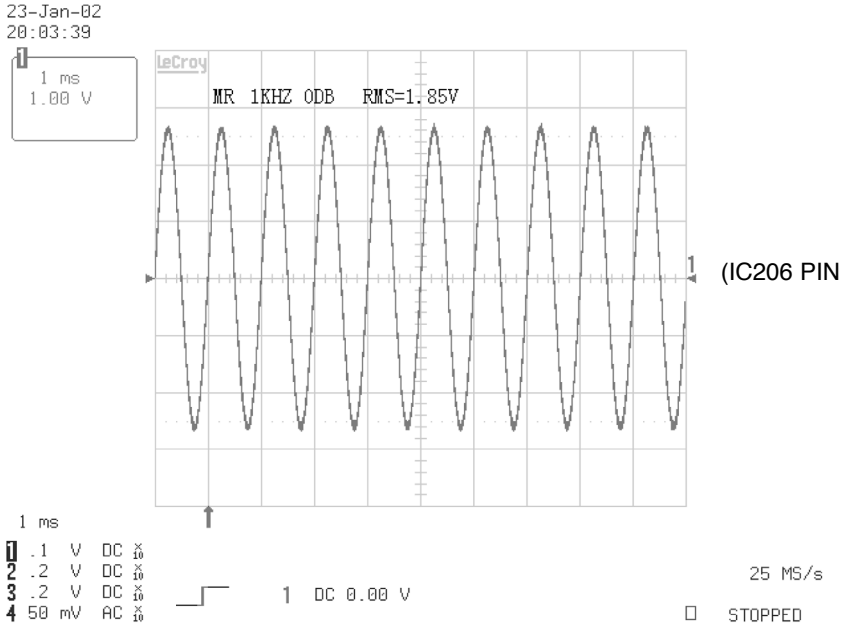


(IC507 PIN 26)

FIG 12-3

13. AUDIO OUTPUT FROM AUDIO DAC

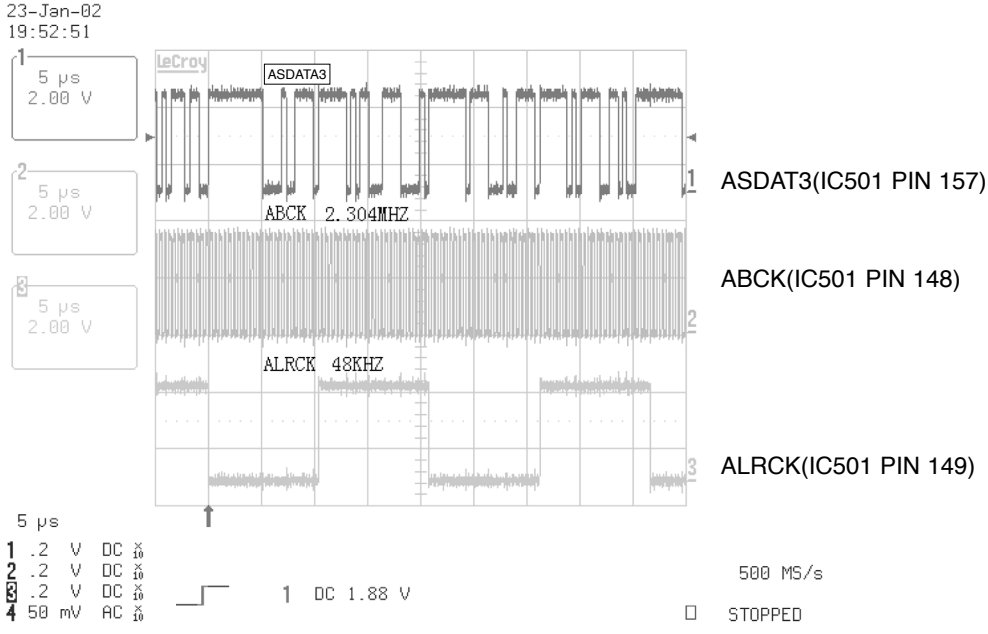
1) Audio L/R



(IC206 PIN 8,5)

FIG 13-1

2) Audio related Signal



ASDAT3(IC501 PIN 157)

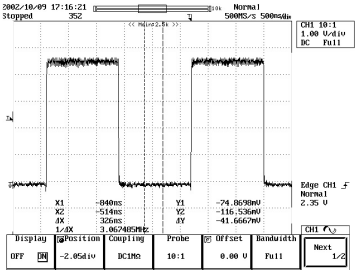
ABCK(IC501 PIN 148)

ALRCK(IC501 PIN 149)

FIG 13-2

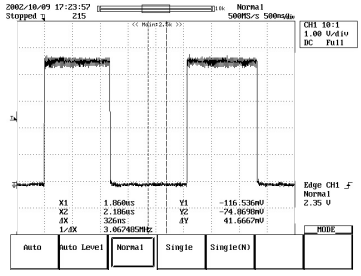
14. DVD & AMP WAVEFORMS

1)



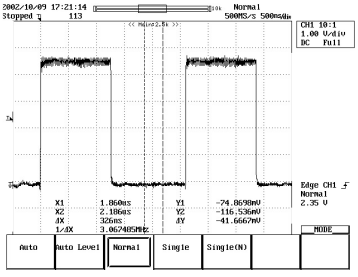
• R311 → FRONT L

2)



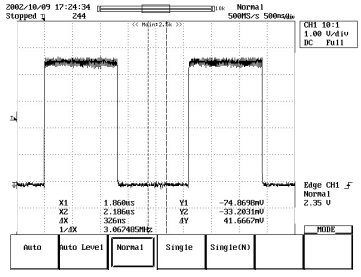
• R303 → FRONT R

3)



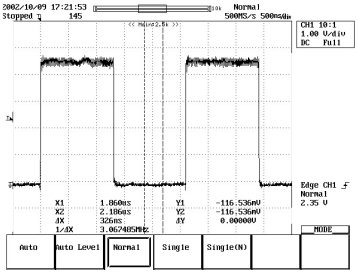
• R309 → SURROUND L

4)



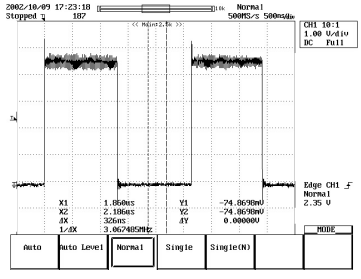
• R301 → SURROUND R

5)



• R307 → CENTER

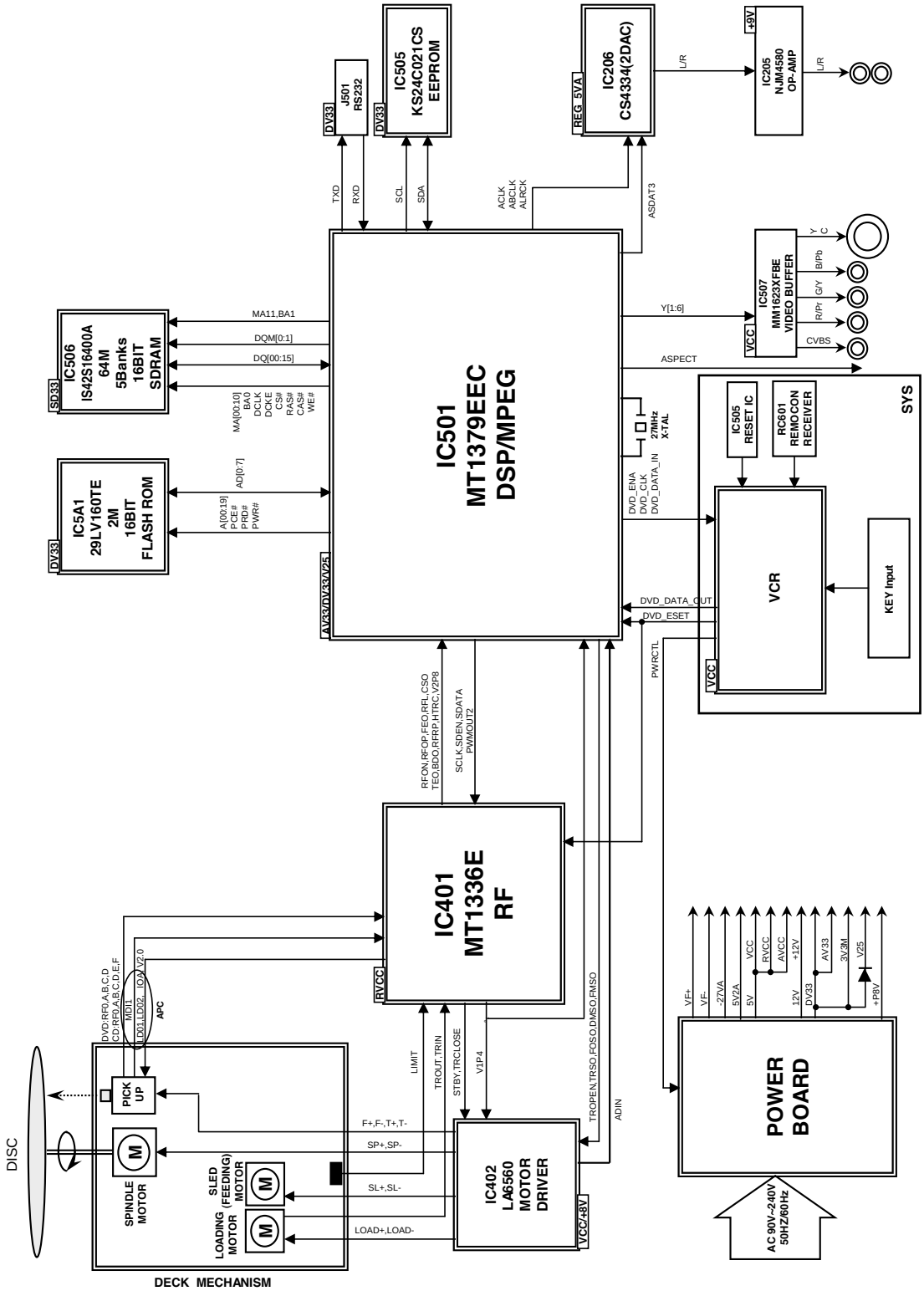
6)



• R305 → WOOFER

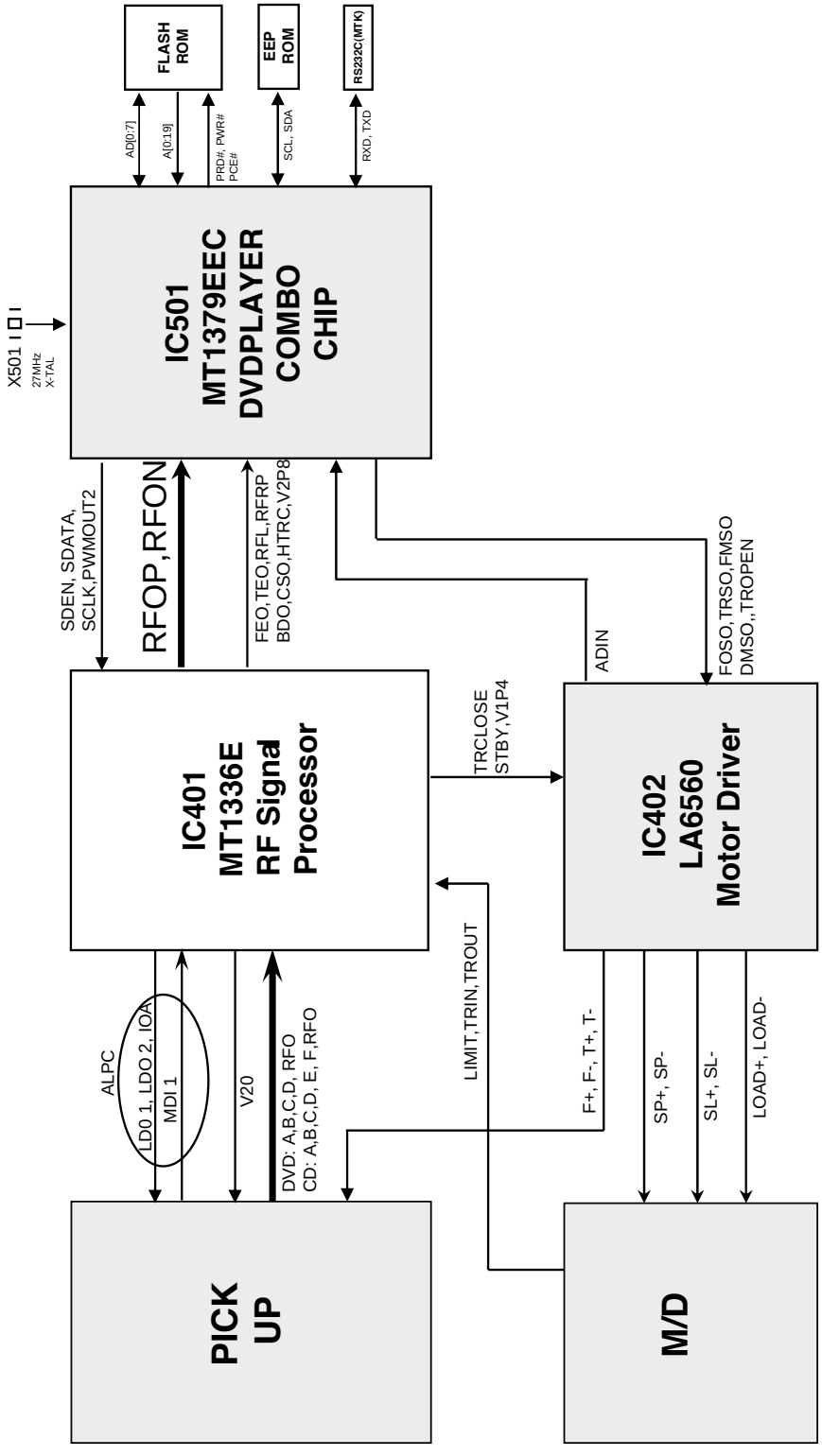
BLOCK DIAGRAMS

1. Overall Block Diagram



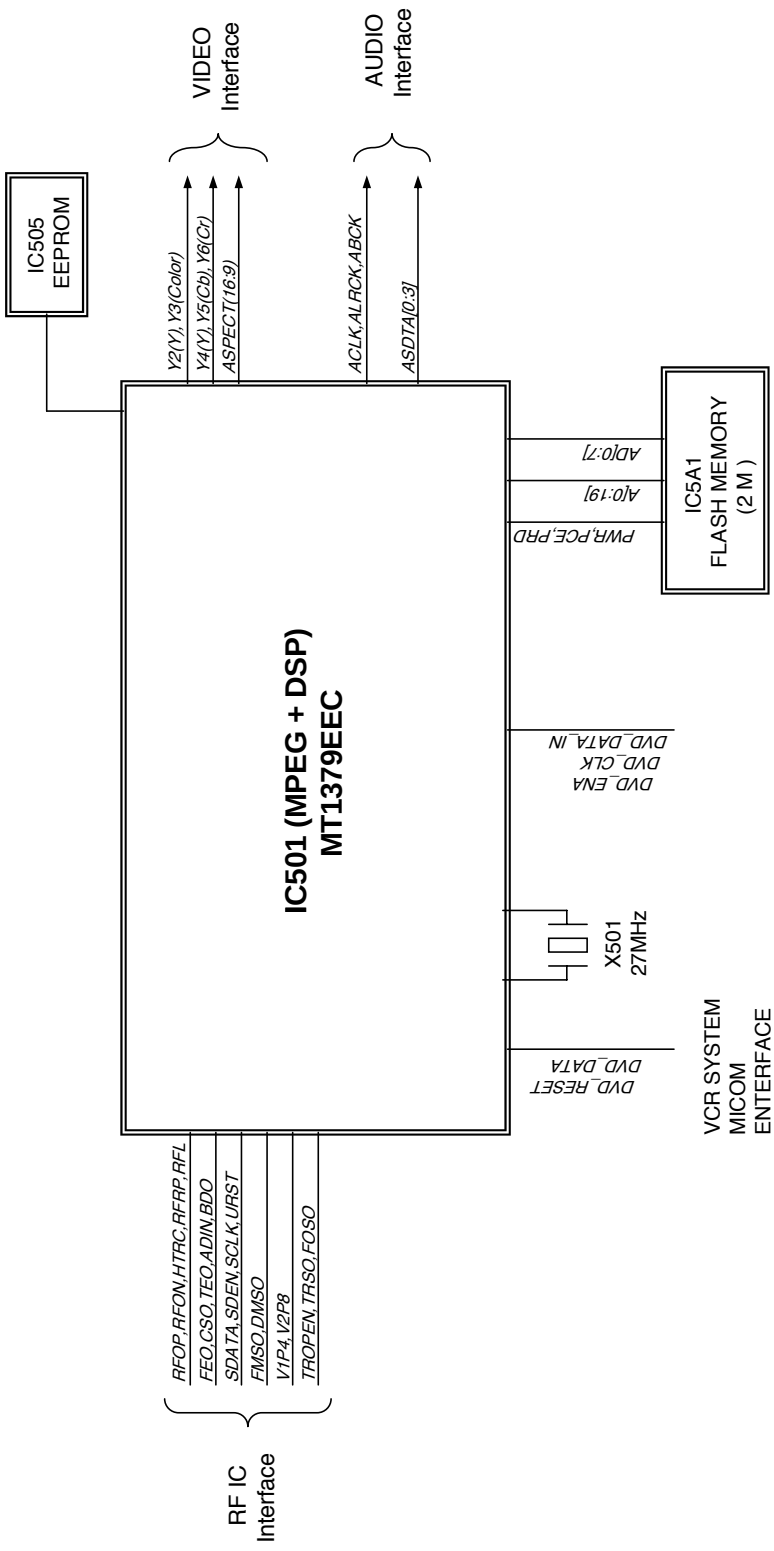
TOSHIBA
SD-V55HTSU/SC

2. SERVO Block Diagram



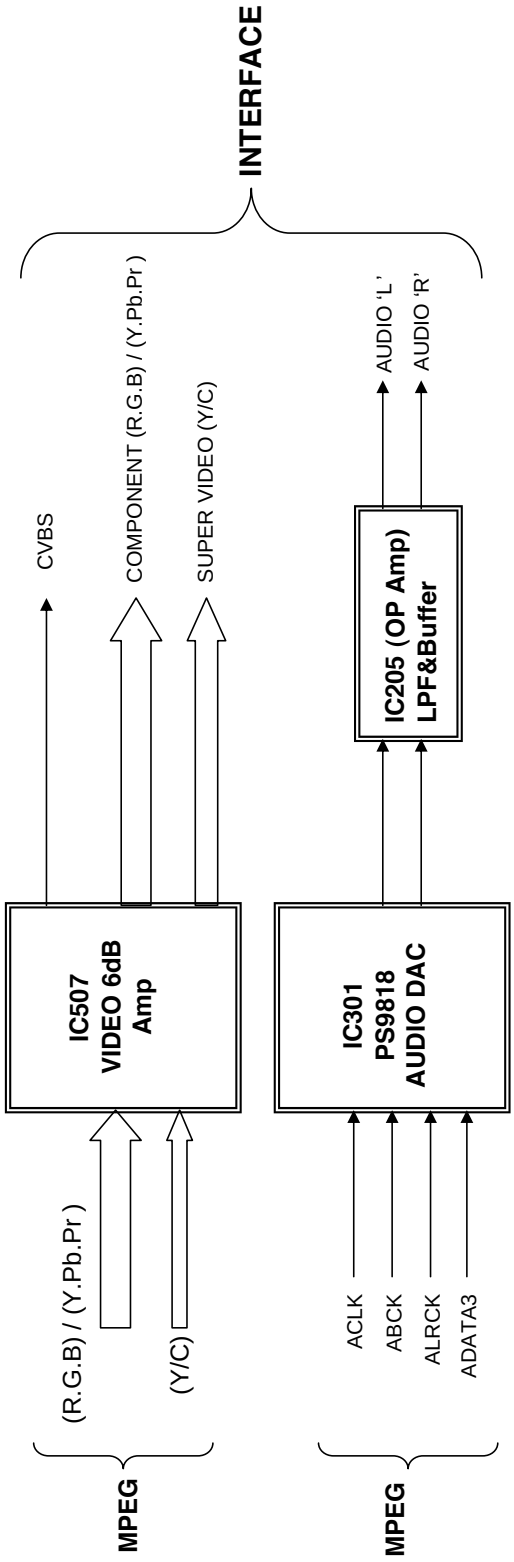
TOSHIBA
SD-V55HTSU/SC

3. MPEG & MEMORY Block Diagram

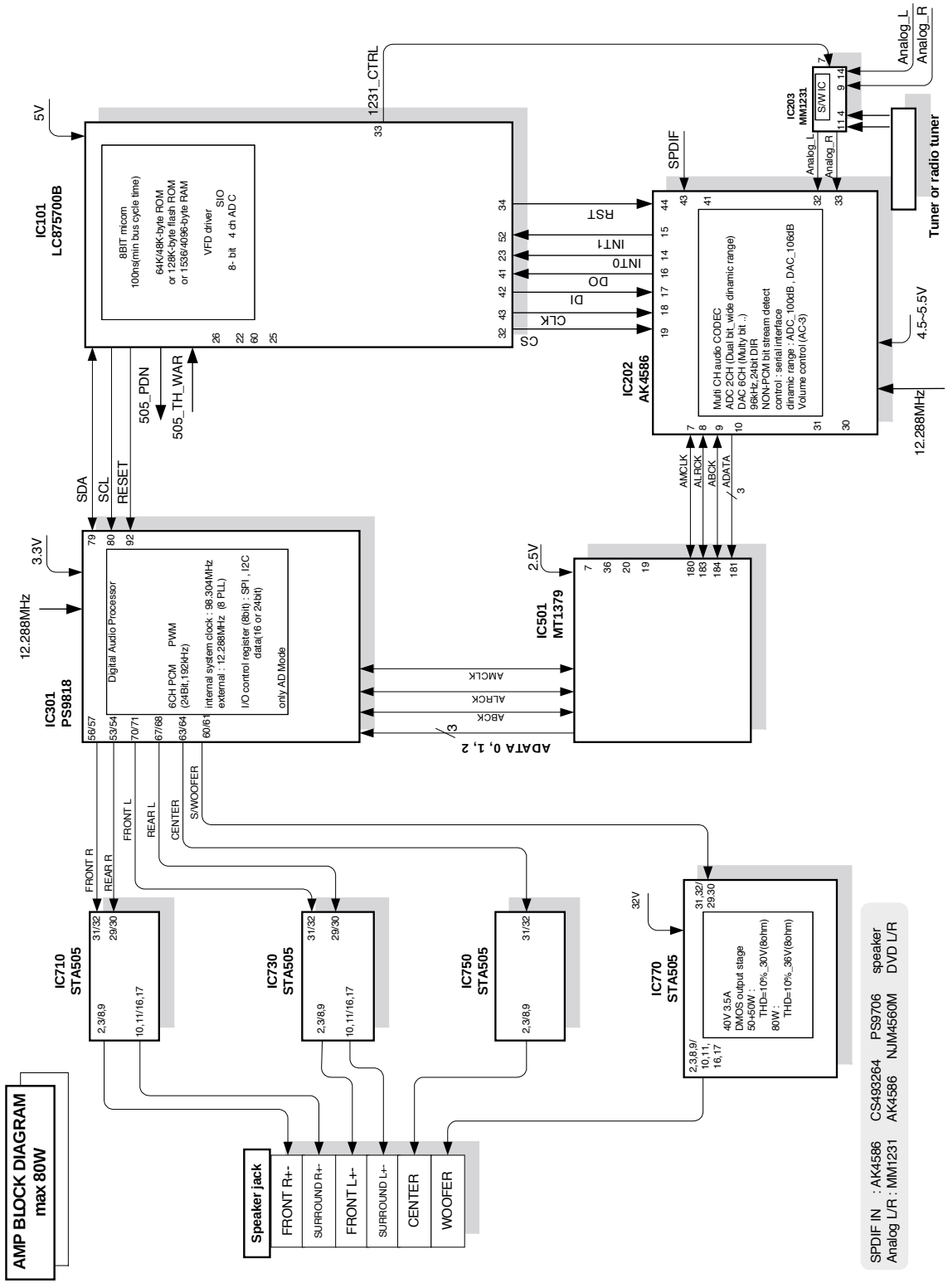


TOSHIBA
SD-V55HTSU/SC

4. VIDEO & AUDIO Block Diagram



5. DVD & AMP Block Diagram

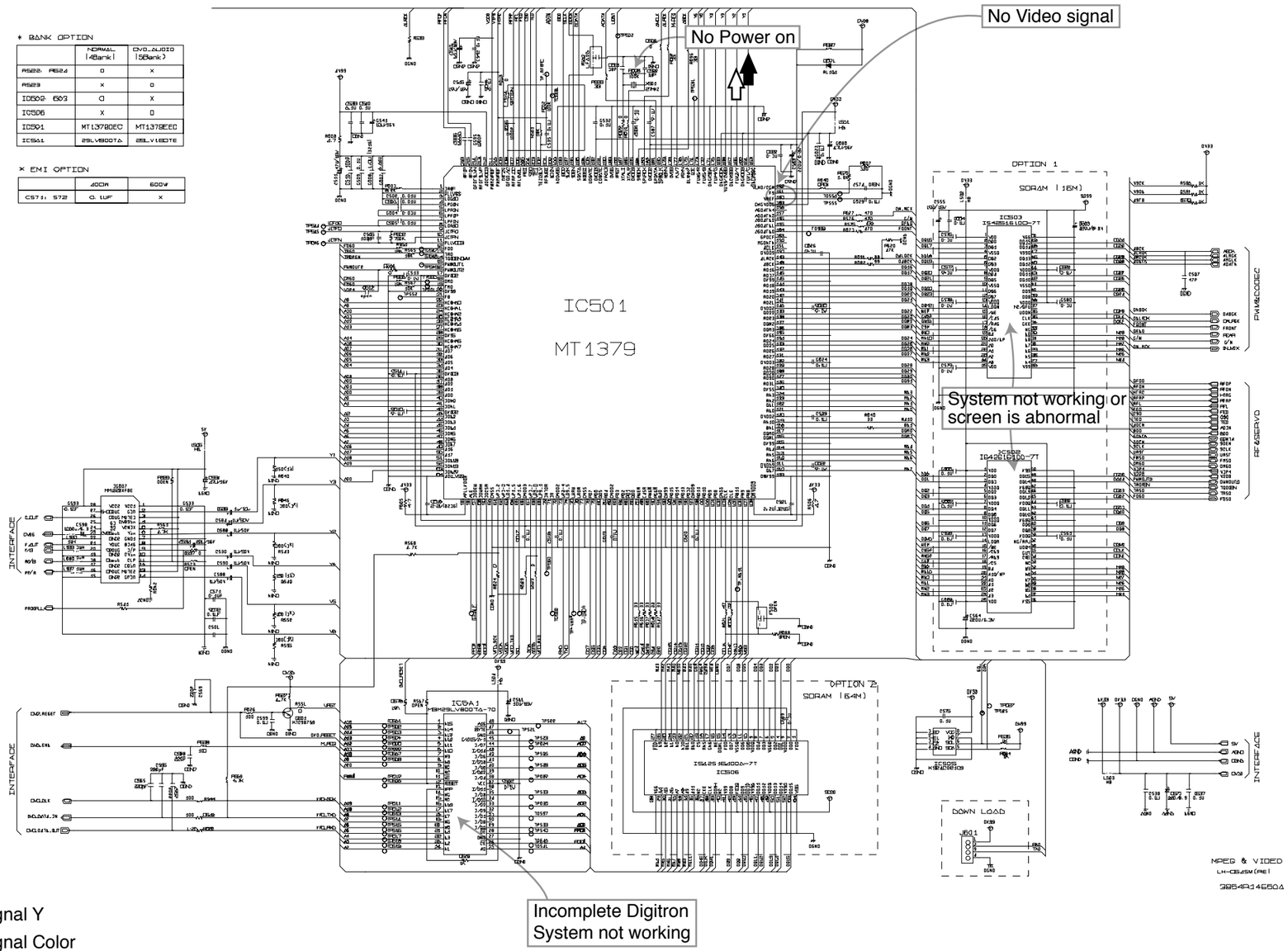


TOSHIBA
SD-V55HTSU/SC

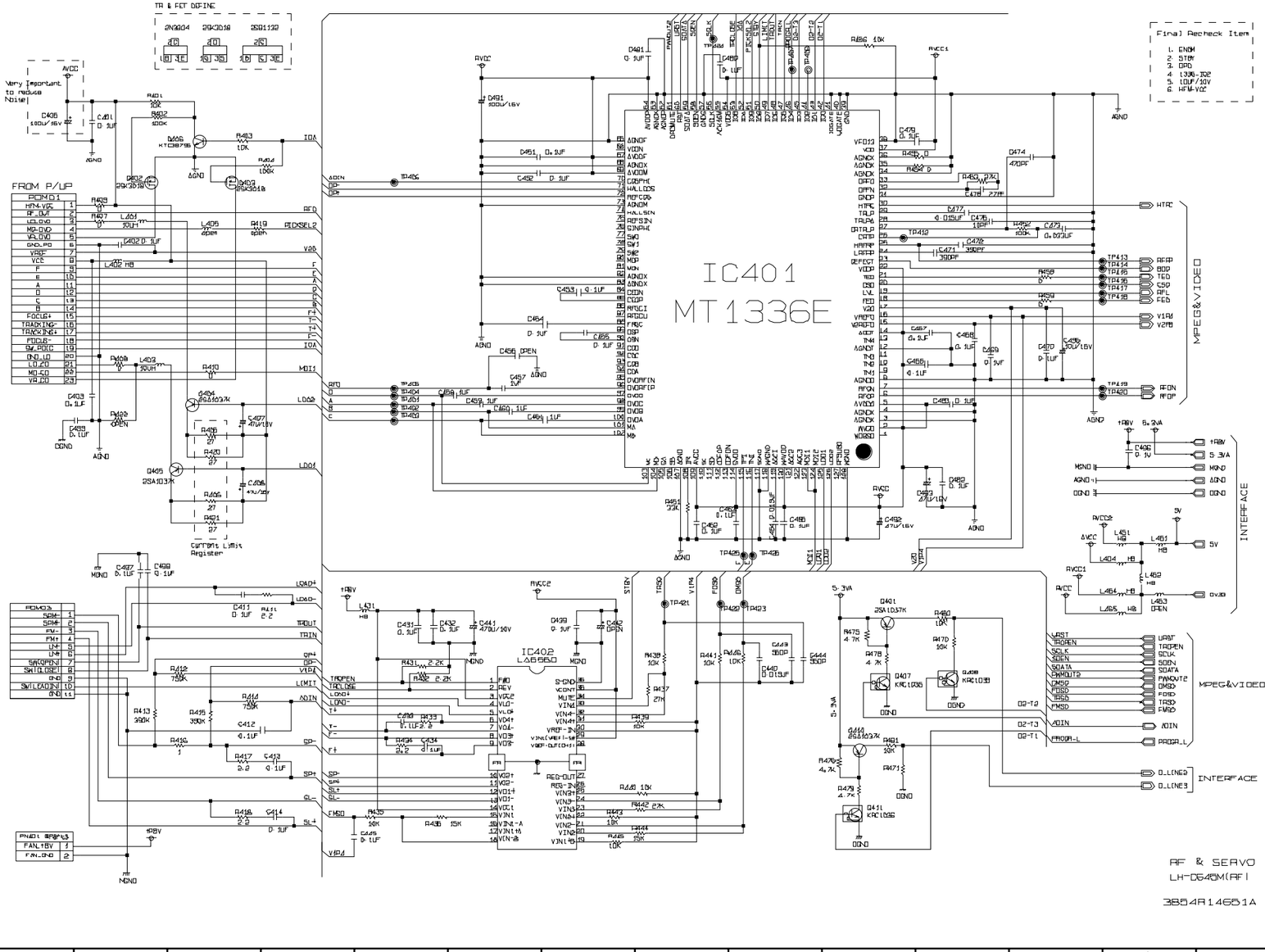
MEMO

CIRCUIT DIAGRAMS

1. MPEG CIRCUIT DIAGRAM



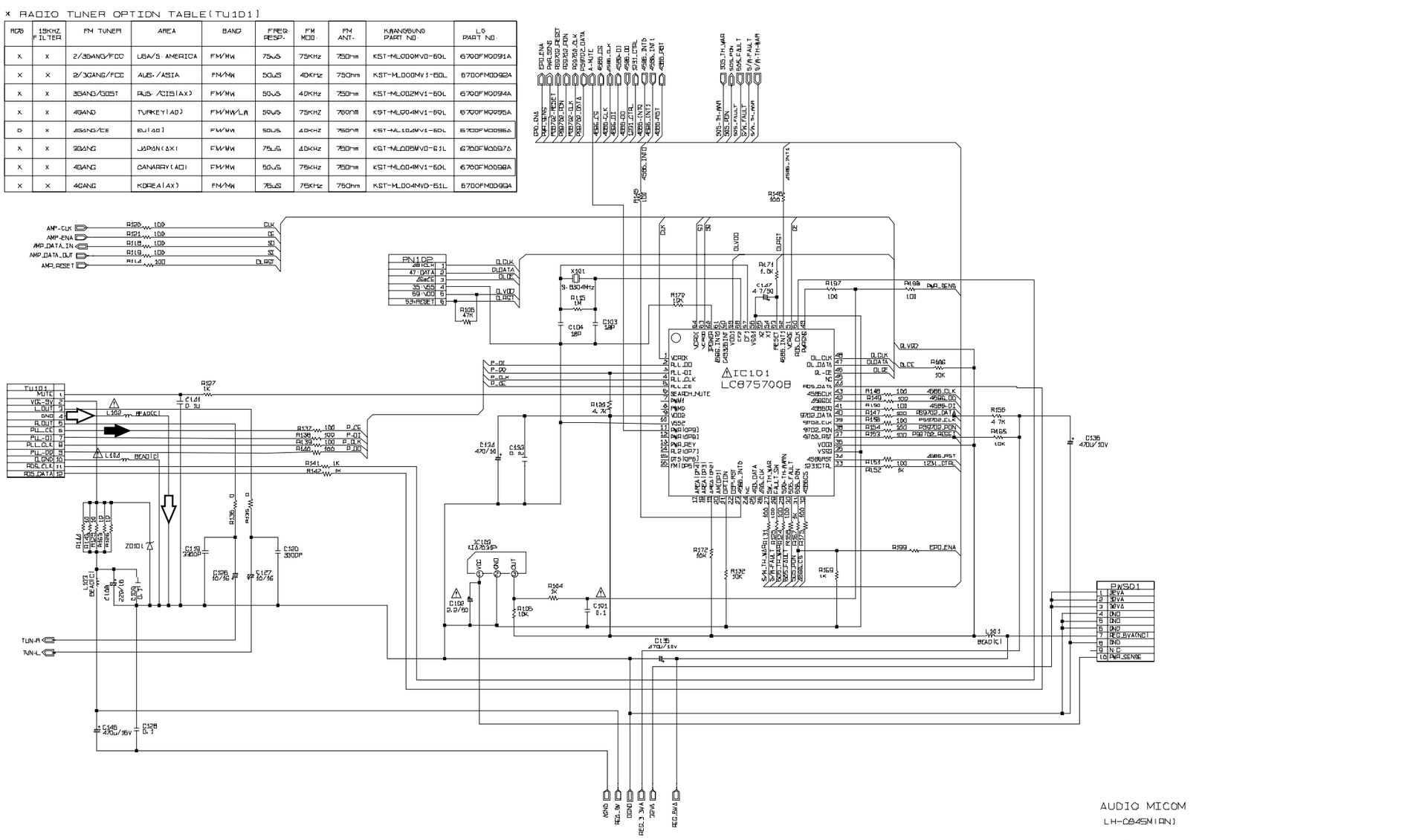
2. RF & SERVO CIRCUIT DIAGRAM



3. AUDIO, μ_COM CIRCUIT DIAGRAM(DVD & AMP)

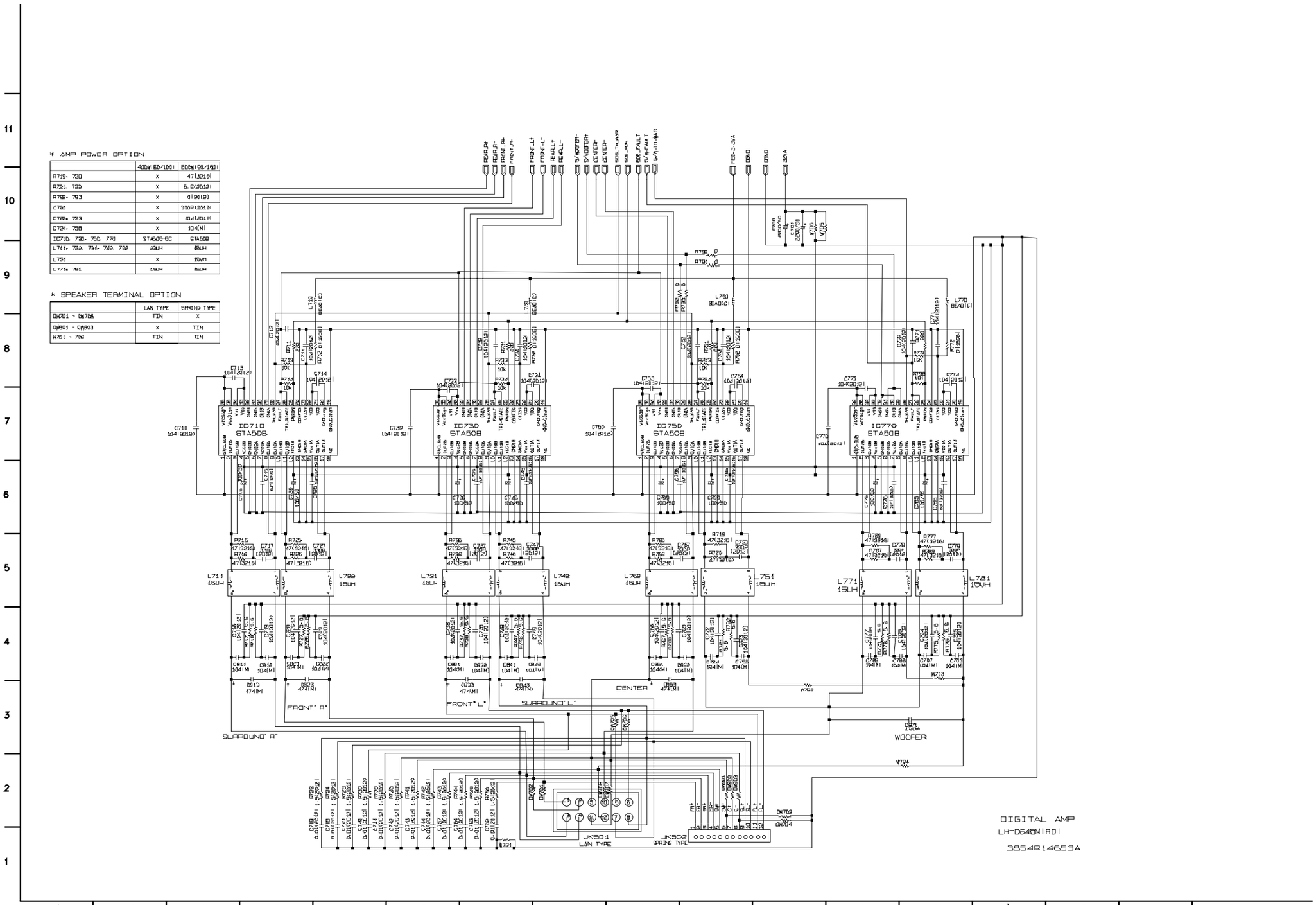
x RADIO TUNER OPTION TABLE(TU1D1)

RDS	19KHZ FILTER	FM TUNER	AREA	BAND	FREQ. RESP.	FM MOD.	FM ANT.	KWANGSUNG PART NO.	LG PART NO.
X	X	2/3BAND/FCC	USA/S.AMERICA	FM/MW	75uS	75KHz	75Ohm	KST-ML0D0MV0-E0L	6700FM0091A
X	X	2/3GANG/FCC	AUS./ASIA	FM/MW	50uS	40KHz	75Ohm	KST-ML0D0MV1-E0L	6700FM0092A
X	X	3BAND/3DST	AUS./CIS(AX)	FM/MW	50uS	40KHz	75Ohm	KST-ML0D2MV1-E0L	6700FM0094A
X	X	4BAND	TURKEY(AD)	FM/MW/LW	50uS	75KHZ	75Ohm	KST-ML0D4MV1-E0L	6700FM0095A
O	X	4BAND/CE	EU(AD)	FM/MW	50uS	40KHz	75Ohm	KST-ML1D4MV1-E0L	6700FM0096A
X	X	3BAND	JAPAN(AX)	FM/MW	75uS	40KHz	75Ohm	KST-ML0D3MV0-E1L	6700FM0097A
X	X	4BAND	CANARY(AD)	FM/MW	50uS	75KHz	75Ohm	KST-ML0D4MV1-E0L	6700FM0098A
X	X	4GANG	KOREA(AX)	FM/MW	75uS	75KHz	75Ohm	KST-ML0D4MV0-E1L	6700FM0099A

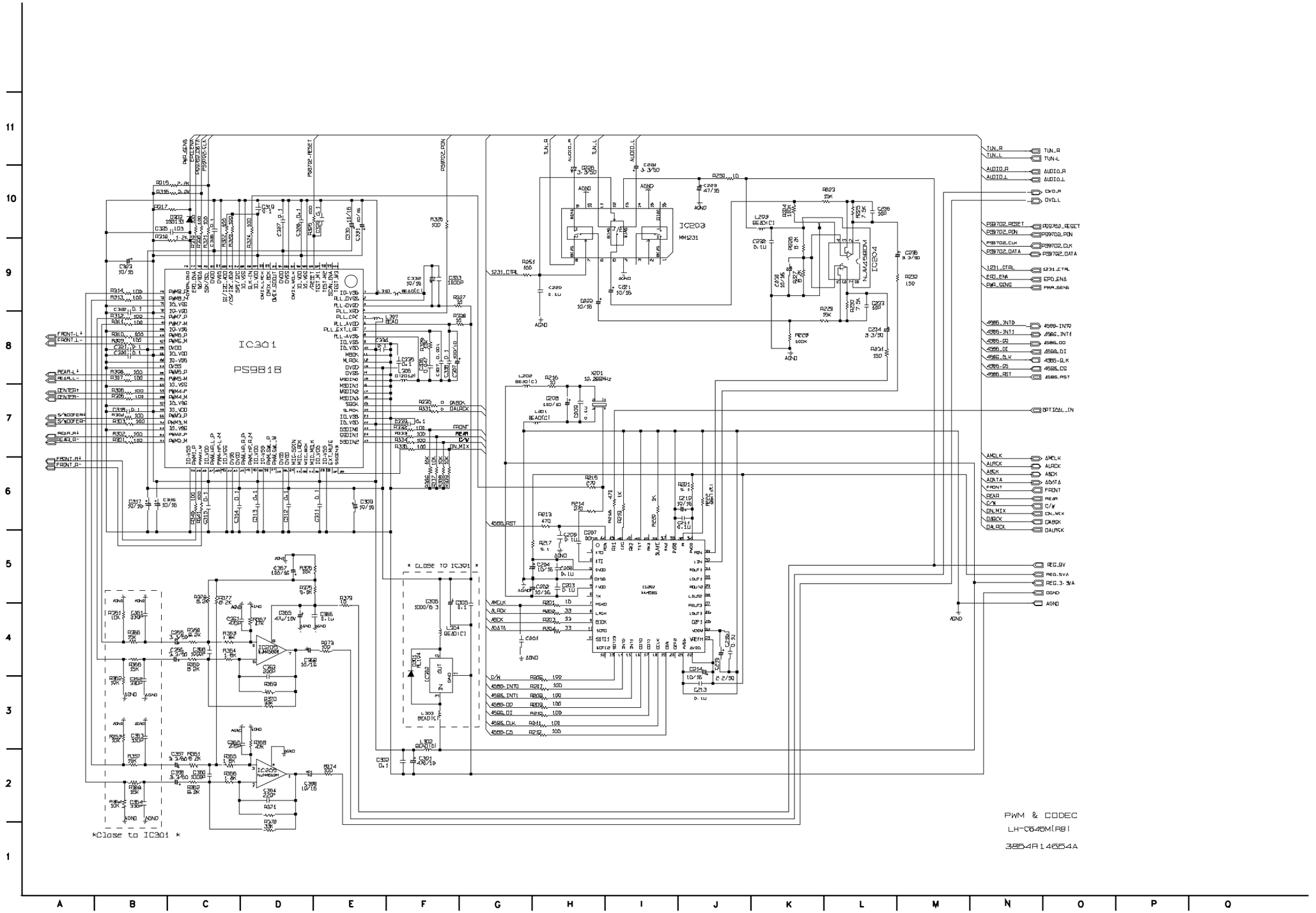


TUNER_L
TUNER_R

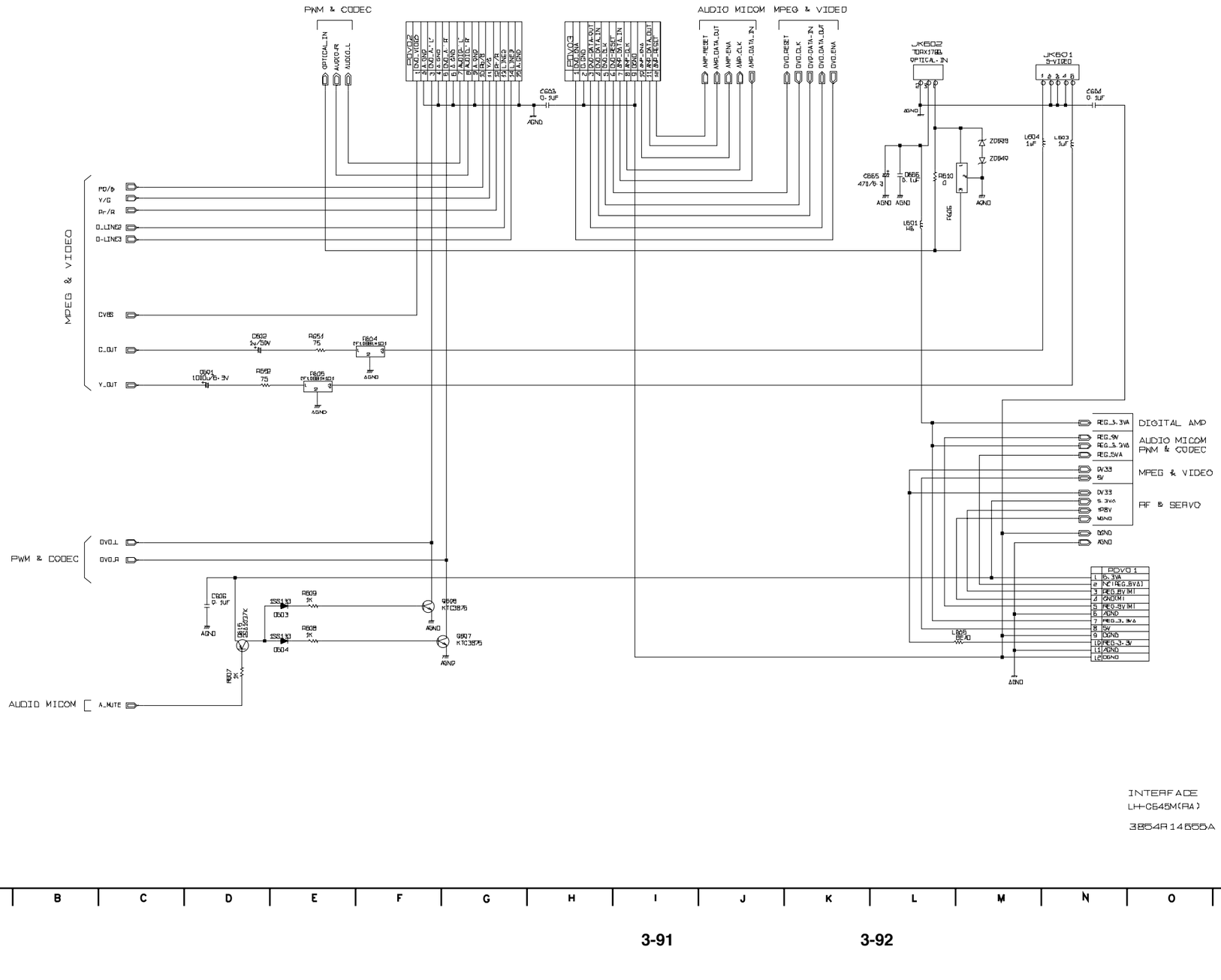
4. DIGITAL AMP CIRCUIT DIAGRAM (DVD & AMP)



5. PWM & CODEIC CIRCUIT DIAGRAM (DVD & AMP)



6. INTERFACE CIRCUIT DIAGRAM (DVD & AMP)



• CIRCUIT VOLTAGE CHART

MODE / PIN NO.	STOP	PLAY
IC101		
1	5.23	5.22
2	0	0
3	1.75	1.99
4	0	0
5	4.91	4.91
6	NC	NC
7	0.54	1.88
8	0.54	1.88
9	4.91	4.91
10	0	0
11	4.77	4.77
12	0.12	0.12
13	4.72	4.72
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	3.24	3.22
23	0.91	0.91
24	1.65	1.65
25	0	0
26	0	0
27	1.99	1.93
28	3.12	3.12
29	3.26	3.25
30	3.12	3.12
31	4.65	4.65
32	NC	NC
33	NC	NC
34	NC	NC
35	0	0
36	4.91	4.91
37	3.25	3.24
38	4.91	4.91
39	0	0
40	3.22	3.2
41	NC	NC
42	NC	NC
43	NC	NC
44	NC	NC
45	NC	NC
46	4.91	4.9
47	2.08	2.03
48	2.07	2.07
49	4.91	4.9
50	NC	NC
51	5.09	5.08
52	0	0
53	4.91	4.91
54	2.16	2.1

MODE / PIN NO.	STOP	PLAY
55	2.04	1.96
56	0	0
57	2.36	2.36
58	2.42	2.42
59	4.9	4.91
60	2.4	2.4
61	1.8	1.9
62	4.9	4.9
63	0	0
64	5.23	5.22
IC102		
1	4.93	4.93
2	0	0
3	4.93	4.93
IC202(AK4586)		
1	2.41	2.39
2	2.04	2.07
3	4.85	4.84
4	0	0.01
5	3.28	3.28
6	4.85	0.01
7	1.18	1.15
8	1.65	1.65
9	1.63	1.62
10	1.3	1.25
11	0	1.63
12	0	1.63
13	0	0.58
14	0	0.03
15	0	0.03
16	0.45	0.2
17	0	0.01
18	0	0.02
19	4.93	4.92
20	0	0.02
21	0	0.01
22	4.94	4.93
23	4.93	4.93
24	2.46	2.46
25	0	0.02
26	2.47	2.47
27	2.47	2.47
28	2.47	2.47
29	2.47	2.47
30	2.47	2.47
31	2.47	2.47
32	2.47	2.46
33	2.47	2.46
34	4.93	4.92
35	1.2	1.2
36	0	0.01
37	2.44	2.45
38	0	0.01
39	2.44	2.45
40	0	0.02

MODE / PIN NO.	STOP	PLAY
41	2.44	2.45
42	0	0.01
43	4.24	4.23
44	4.93	4.93
IC301		
1	0	0
2	0	0
3	3.21	3.18
4	4.91	4.91
5	3.21	3.18
6	2.95	2.92
7	1.72	1.7
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	3.21	3.18
16	0	0
17	0	0.9
18	0	0
19	0	0
20	0	0
21	0	0.9
22	1.59	1.6
23	1.63	1.62
24	3.22	3.18
25	0	0
26	0	0.9
27	0	0
28	0	0
29	0	0
30	NC	NC
31	NC	NC
32	3.21	3.18
33	0	0
34	NC	NC
35	NC	NC
36	NC	NC
37	0	0
38	1.6	1.59
39	NC	NC
40	3.21	3.18
41	0	0
42	NC	NC
43	0	0
44	NC	NC
45	NC	NC
46	3.21	3.18
47	0	0
48	NC	NC
49	NC	NC
50	0	0

MODE / PIN NO.	STOP	PLAY
51	3.21	318
52	0	0
53	1.59	1.58
54	1.59	1.58
55	0	0
56	1.59	1.58
57	1.59	1.58
58	3.21	3.18
59	0	0
60	1.59	1.58
61	1.59	1.58
62	0	0
63	1.59	1.58
64	1.59	1.59
65	3.21	3.18
66	0	0
67	1.59	1.58
68	1.59	1.58
69	0	0
70	1.59	1.58
71	1.59	1.58
72	3.21	3.18
73	0	0
74	0	0
75	0	0
76	3.1	3.09
77	3.21	3.18
78	0	0
79	3.22	3.2
80	0	0
81	3.21	3.18
82	3.21	3.18
83	0	0
84	3.21	3.18
85	0	0
86	1.67	1.67
87	NC	NC
88	NC	NC
89	0	0
90	3.21	3.18
91	0	0
92	3.25	3.24
93	0	0
94	0	0
95	0	0
96	0	0
97	NC	NC
98	0	0
99	3.21	3.18
100	0	0
IC401(MT1336E)		
1	1.03	2.99
2	5.11	5.08
3	0	0
4	0	0

MODE / PIN NO.	STOP	PLAY
5	5.11	5.07
6	0	1.95
7	0	0
8	0	0
9	5.11	0
10	5.11	5.08
11	5.11	5.08
12	0	0
13	5.11	0
14	5.11	5.08
15	2.84	2.81
16	1.45	1.43
17	2.08	2.07
18	1.37	1.42
19	0.69	2.3
20	2.4	0
21	2.35	0
22	5.11	5.08
23	0	0
24	2.59	3.2
25	0.19	1.88
26	1.58	0
27	2.56	3.13
28	2	2.01
29	2	2.06
30	2.96	1.52
31	0	0
32	0.06	2.07
33	0.07	2.07
34	0	0
35	0	0
36	0	0
37	5.13	0
38	0	0
39	0	0
40	0	0
41	0	0
42	5.12	5.09
43	5.12	5.09
44	5.12	5.09
45	5.12	5.09
46	5.12	5.09
47	0	0
48	5.12	5.09
49	5.12	0
50	5.08	5.06
51	5.09	5.07
52	5.1	0
53	0	0
54	5.13	0
56	1.61	0
57	0	0
58	0	0
59	0	0
60	0	0

MODE / PIN NO.	STOP	PLAY
61	3.28	0
62	0	0
63	0	0
64	0	0
65	0	0
66	0.026	0
67	5.12	5.08
68	0	0
69	5.12	0
70	3.21	2.03
71	3.46	2.2
72	2.81	0
73	0	0
74	0.21	0.09
75	0.22	0
76	0	0.1
77	0.21	0.09
78	0.23	0.09
79	0.21	0.08
80	0.23	0.08
81	0.22	0
82	0	0
83	0	0
84	0.07	0
85	0.07	2.27
86	1.97	0
87	1.96	1.9
88	1.54	1.71
89	0.19	2.22
90	0.21	0
91	0.22	0.06
92	0.22	0
93	0.23	0.06
94	0.23	0.06
95	2.28	0
96	2.28	2.25
97	2.27	1.23
98	2.27	2.23
99	2.27	2.23
100	2.16	2.23
101	2.08	2.17
102	2.07	2.17
103	2.07	2.18
104	2.08	0
105	0.13	0.15
106	0.14	0.16
107	0	0
108	1.28	1.28
109	5.18	5.05
110	0.14	0.16
111	0.15	0.15
112	0.13	0.16
113	0.14	0.15
114	5.1	5.05
115	2.07	2.06

MODE / PIN NO.	STOP	PLAY
116	2.06	2.09
117	0	0
118	0	0
119	0	0
120	5.1	5.05
121	0.13	0.15
122	0.14	0.15
123	0	0.18
124	0	0.18
125	5.08	5.03
126	5.08	3.16
127	0.06	2.08
128	0	0
IC402 (LA6560)		
1	0	0
2	0	0
3	8.04	8.01
4	0.12	0.06
5	0	0.06
6	3.64	3.69
7	3.62	3.61
8	3.64	3.53
9	3.6	3.76
10	3.62	2.43
11	3.63	4.85
12	3.62	3.72
13	3.64	3.57
14	8.04	8.01
15	1.45	1.48
16	0.27	1.39
17	0.29	1.32
18	1.45	1.43
19	1.45	1.43
20	1.45	0.82
21	1.45	1.43
22	1.45	1.43
23	1.47	1.37
24	1.45	1.43
25	1.45	1.43
26	0.95	0.9
27	0	0
28	1.45	1.43
29	5.15	5.11
30	1.45	1.43
31	1.45	1.43
32	1.45	1.43
33	1.46	1.45
34	5.08	5.06
35	5.15	5.11
36	0	0
IC402 (LA6560)		
1	1.22	1.22
2	0	0
3	0.96	0.9
4	2	2.06

MODE / PIN NO.	STOP	PLAY
5	0	1.51
6	1.48	1.47
7	0	1.56
8	3.2	1.52
9	0.12	0.06
10	0.12	0.06
11	3.25	3.25
12	1.41	1.49
13	1.41	1.41
14	0	0
15	1.42	1.42
16	3.3	0
17	2.53	2.53
18	1.42	2.27
19	1.42	1.39
20	0	0
21	2.61	2.58
22	0.75	1.46
23	2.83	1
24	1.9	0.89
25	1.72	0.39
26	0.68	0.31
27	2.84	3.16
28	0	0
29	2.85	0.66
30	1.83	0.49
31	0.91	1.39
32	1.43	1.2
33	1.51	1.57
34	1.51	1.43
35	3.3	3.29
36	0.81	1.26
37	1.45	1.02
38	1.82	1.6
39	1.2	1.5
40	2	2.06
41	2.17	1.95
42	2.53	2.52
43	1.96	1.9
44	1.79	1.9
45	0.8	1.72
46	0.8	1.96
47	0.8	1.84
48	3.3	2.63
49	0	0.13
50	0	0.07
51	0	0
52	0	0
53	0	0
54	0	0
55	3.25	3.27
56	1.2	1.18
57	0	0
58	3.29	3.29
59	0	0

MODE / PIN NO.	STOP	PLAY
60	0	0
61	2.59	2.57
62	2.58	2.58
63	0	0
64	2.59	2.56
65	3.29	3.29
66	3.3	3.29
67	3.29	3.29
68	2.57	2.56
69	5.19	5.18
70	2.59	2.57
71	0.12	0.08
72	2.53	2.52
73	2.59	2.57
74	3.29	3.29
75	2.61	2.61
76	3.27	3.24
77	0	0
78	0.94	1.04
79	0.78	1.06
80	0.89	1.15
81	0.99	1.34
82	2.52	2.52
83	3.09	1.33
84	0.37	1.16
85	3.08	1.1
86	3.07	1.08
87	0.59	1.04
88	1.57	2.53
89	3.2	3.13
90	2.77	2.53
91	0.22	1.68
92	0	0
93	3.32	1
94	0.16	1.58
95	3.31	1.62
96	3.3	1.08
97	3.3	3.29
98	3.32	1.62
99	0.16	1.09
100	3.32	1.27
101	3.3	1.32
102	0	0
103	1.56	1.55
104	0.94	1.25
105	0.41	0
106	0.05	0.06
107	0	0.06
108	3.27	3.26
109	0	0
110	0.19	1.74
111	3.3	3.29
112	0.18	1.62
113	2.98	2.38
114	3.02	1.48

MODE / PIN NO.	STOP	PLAY
115	0	0
116	2.86	3.01
117	2.86	2.54
118	0	0
119	0	2.5
120	2.55	2.51
121	3.03	1.4
122	3.03	1.4
123	0.22	1.39
124	0.22	0.34
125	0	0
126	3.31	0.98
127	0.26	1.64
128	3.31	1.53
129	3.3	1.15
130	3.3	3.29
131	3.31	1.49
132	0.16	0.89
133	3.3	0
134	3.3	1.07
135	0	0
136	2.86	2.53
137	2.86	2.53
138	0.07	0.86
139	0.09	0.99
140	0.07	2.51
141	0.07	0.94
142	0.09	1.13
143	0.07	1.19
144	0.09	1.07
145	0.09	0
146	0	1.51
147	0.09	1.25
148	0.07	1.64
149	0.06	0
150	0	1.65
151	0.07	3.29
152	0	1.6
153	0	1.64
154	0	1.44
155	0	0
156	0	0
157	0	1.63
158	0	3.29
159	0	3.27
160	0	1.27
161	0	1.27
162	0	2.35
163	0	0
164	0	0.73
165	0	3.27
166	0	0.5
167	0	0
168	0	0.53
169	0	3.27

MODE / PIN NO.	STOP	PLAY
170	0	0.59
171	0	0
172	3.01	0.72
173	0	0.72
174	0	0
175	0	2.73
176	0	3.13
177	0	3.13
178	0	3.25
179	0	0
180	0	0
181	2.04	2.64
182	0	2.52
183	0	0
184	0	0.09
185	0	3.26
186	_	_
187	0	0.08
188	0	0
189	0	0
190	0	0
191	0.23	0
192	0	3.29
193	0	0
194	0	0
195	0	0
196	0	0
197	0	1.63
198	0	0
199	0	0
200	0	2.15
201	0	1.44
202	0	1.44
203	0	1.43
204	0	1.43
205	0	1.42
206	0	2.1
207	0	2.07
208	0	1.41
209	0	1.52
210	0	1.43
211	0	2.81
212	0	3.28
213	0	0.12
214	0	0.12
215	1.02	1.43
216	0	1.43
IC505(EEPROM)		
1	0	0
2	0	0
3	0	0
4	0	0
5	3.28	3.29
6	3.28	3.29
7	0	0

MODE / PIN NO.	STOP	PLAY
8	3.28	3.29
IC507(MM1623)		
1	5.09	5.08
2	2.43	2.42
3	5.09	5.08
4	1.45	0
5	0	0
6	1.45	1.69
7	0	0
8	2.47	2.46
9	0	0
10	1.14	1.76
11	0	0
12	2.42	2.42
13	5.09	5.08
14	2.43	2.42
15	0	0
16	2.49	2.47
17	0	0
18	2.48	2.47
19	0	0
20	1.18	2.3
21	1.76	2.17
22	0	0
23	1.76	2.24
24	0	0
25	0	0
26	0	0
27	0.06	0.05
28	5.09	0
IC510(BUFFER)		
1	0	0
2	2.59	2.55
3	0	0
4	2.59	2.56
5	0	0
6	3.24	3.23
7	0	0
8	0.14	0.08
9	0	0
10	0	0
11	0.15	0.09
12	0	0
13	0.15	0.08
14	5.19	5.19
15	0.14	0.09
16	5.25	5.24
17	0.15	0.08
18	5.23	5.23
19	0	0
20	5.25	5.25
IC5A1(FLASH)		
1	0.08	0.16
2	1.82	0.45
3	2.84	0

MODE / PIN NO.	STOP	PLAY
4	2.83	3.12
5	0.69	0.26
6	1.72	0.25
7	1.92	0.9
8	1.7	1.45
9	0	0
10	0	0
11	3.27	3.29
12	3.56	3.55
13	3.29	3.29
14	0	0
15	0.23	0.06
16	0	0
17	0	0
18	0	0.87
19	1.98	2.64
20	2.28	2.18
21	2.13	1.96
22	1.67	2.01
23	1.99	1.72
24	1.93	2.19
25	2.05	1.94
26	0	0
27	0	0
28	0	0
29	1.49	2.03
30	0.16	1.07
31	1.96	1.25
32	0.16	1.1
33	0.99	2.2
34	1.17	1.07
35	0.79	1.82
36	0.15	1.07
37	3.29	3.3
38	1.93	3.09
39	0.16	1.07
40	1.5	2.2
41	0.16	1.07
42	1.21	2.64
43	0.16	1.08
44	1.64	1.48
45	2.05	2.06
46	0	0
47	0	0
48	0.07	0.13
IC710		
1	0	0
2	15.6	15.6
3	15.6	15.6
4	3.59	31.58
5	0	0
6	0	0
7	31.59	31.58
8	15.62	15.62
9	15.62	15.62

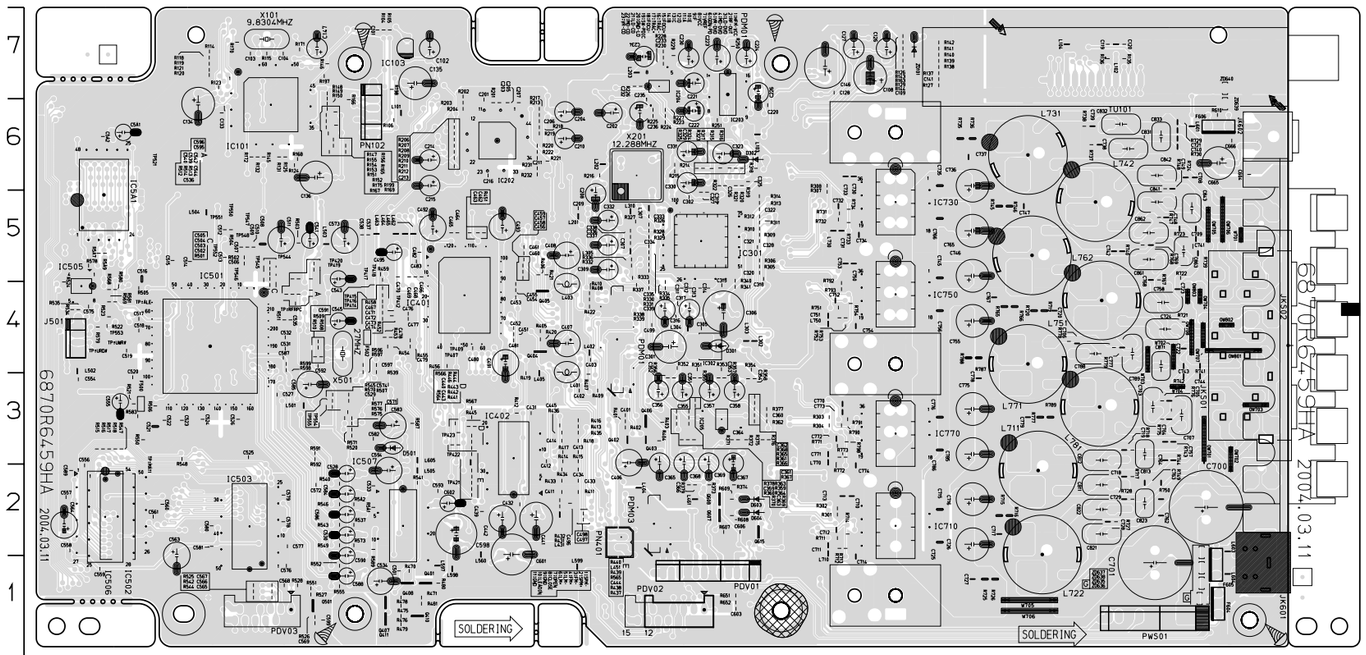
MODE / PIN NO.	STOP	PLAY
10	15.61	15.61
11	15.61	15.61
12	31.59	31.59
13	0	0
14	0	0
15	31.59	31.59
16	15.61	15.61
17	15.61	15.61
18	NC	NC
19	0	0
20	0.02	0.02
21	5.02	5.02
22	5.02	5.02
23	3.25	3.24
24	0	0
25	3.15	3.15
26	3.15	3.15
27	3.15	3.15
28	3.24	3.23
29	1.58	1.57
30	1.58	1.57
31	1.58	1.57
32	1.58	1.57
33	26.32	26.31
34	26.32	26.31
35	31.58	31.57
36	31.58	31.57
IC730		
1	0	0
2	15.6	15.6
3	15.6	15.6
4	31.59	31.58
5	0	0
6	0	0
7	31.59	31.58
8	15.62	15.62
9	15.62	15.62
10	15.61	15.61
11	15.61	15.61
12	31.59	31.59
13	0	0
14	0	0
15	31.59	31.59
16	15.61	15.61
17	15.61	15.61
18	NC	NC
19	0	0
20	0.02	0.02
21	5.02	5.02
22	5.02	5.02
23	3.24	3.23
24	0	0
25	3.15	3.15
26	3.15	3.15
27	3.15	3.15

MODE / PIN NO.	STOP	PLAY
28	3.24	3.23
29	1.58	1.57
30	1.58	1.57
31	1.58	1.57
32	1.58	1.57
33	26.3	26.3
34	26.3	26.3
35	31.58	31.57
36	31.58	31.57
IC750		
1	0	0
2	15.6	15.6
3	15.6	15.6
4	31.59	31.58
5	0	0
6	0	0
7	31.59	31.58
8	15.62	15.62
9	15.62	15.62
10	15.61	15.61
11	15.61	15.61
12	31.59	31.59
13	0	0
14	0	0
15	31.59	31.59
16	15.61	15.61
17	15.61	15.61
18	NC	NC
19	0	0
20	0.03	0.03
21	5.06	5.06
22	5.06	5.06
23	3.24	3.23
24	0	0
25	3.15	3.15
26	3.15	3.15
27	3.15	3.15
28	3.24	3.23
29	1.58	1.57
30	1.58	1.57
31	1.58	1.57
32	1.58	1.57
33	26.3	26.3
34	26.3	26.3
35	31.58	31.57
36	31.58	31.57

SECTION	NO	STOP			PLAY		
		B	E	C	B	E	C
DVD&AMP	Q401	5.2	5.19	0	5.2	5.19	0
	Q402	0	0	0	0	0	0.22
	Q403	5.08	0	0	4.93	0	0
	Q404	5.01	5.08	0	4.96	5.02	0
	Q405	5.01	5.08	0.44	3.32	4.01	1.9
	Q407	0	0	5.2	0	0	0
	Q408	2.85	0	0	2.83	0	0
	Q410	5.2	5.2	0	0	5.2	0
	Q411	0	0	5.2	0	0	5.19

PRINTED CIRCUIT DIAGRAMS

1. DVD & AMP P.C.BOARD



LOCATION GUIDE

C101	E7	C201	H6	C407	G4	C493	F5	C554	A3	C665	B6	C750	J1	D604	I2
C102	E7	C202	H6	C408	G3	C494	E5	C555	B3	C666	B6	C751	J1	D605	E3
C103	I1	C203	I1	C410	G3	C495	E5	C556	B3	C667	B6	C752	J1	D642	E4
C104	C1	C204	I1	C412	G3	C497	G2	C557	A2	C701	N1	C753	J1	F606	D1
C105	C1	C205	I1	C413	G3	C498	G2	C558	A2	C702	N1	C754	J1	F607	D1
C106	K1	C206	I1	C414	G3	C499	F4	C559	A2	C703	N1	C755	J1	F608	D1
C107	K1	C207	I1	C415	H4	C501	E3	C560	A2	C704	N1	C756	J1	IC101	F6
C108	K1	C208	I1	C416	H4	C502	E3	C561	B2	C705	N1	C757	J1	IC202	F6
C109	K1	C209	I1	C417	H4	C503	E3	C562	B2	C706	N1	C758	J1	IC203	I7
C110	K1	C210	I1	C418	H4	C504	E3	C563	B1	C707	N1	C759	J1	IC301	I5
C111	K1	C211	I1	C419	H4	C505	E3	C564	B2	C708	N1	C760	J1	IC302	F3
C112	K1	C212	I1	C420	H4	C506	E3	C565	B2	C709	N1	C761	J1	IC303	F3
C113	K1	C213	I1	C421	H4	C507	E3	C566	B2	C710	N1	C762	J1	IC401	G2
C114	K1	C214	I1	C422	H4	C508	E3	C567	B2	C711	N1	C763	J1	IC402	G2
C115	K1	C215	I1	C423	H4	C509	E3	C568	B2	C712	N1	C764	J1	IC403	F2
C116	K1	C216	I1	C424	H4	C510	E3	C569	B2	C713	N1	C765	J1	IC501	E3
C117	K1	C217	I1	C425	H4	C511	E3	C570	B2	C714	N1	C766	J1	IC502	C3
C118	K1	C218	I1	C426	H4	C512	E3	C571	B2	C715	N1	C767	J1	IC503	C3
C119	K1	C219	I1	C427	H4	C513	E3	C572	B2	C716	N1	C768	J1	IC504	A3
C120	K1	C220	I1	C428	H4	C514	E3	C573	B2	C717	N1	C769	J1	IC505	A3
C121	K1	C221	I1	C429	H4	C515	E3	C574	B2	C718	N1	C770	J1	IC506	A3
C122	K1	C222	I1	C430	H4	C516	E3	C575	B2	C719	N1	C771	J1	IC507	A3
C123	K1	C223	I1	C431	H4	C517	E3	C576	B2	C720	N1	C772	J1	IC508	A3
C124	K1	C224	I1	C432	H4	C518	E3	C577	B2	C721	N1	C773	J1	IC509	A3
C125	K1	C225	I1	C433	H4	C519	E3	C578	B2	C722	N1	C774	J1	IC510	A3
C126	K1	C226	I1	C434	H4	C520	E3	C579	B2	C723	N1	C775	J1	IC511	A3
C127	K1	C227	I1	C435	H4	C521	E3	C580	B2	C724	N1	C776	J1	IC512	A3
C128	K1	C228	I1	C436	H4	C522	E3	C581	B2	C725	N1	C777	J1	IC513	A3
C129	K1	C229	I1	C437	H4	C523	E3	C582	B2	C726	N1	C778	J1	IC514	A3
C130	K1	C230	I1	C438	H4	C524	E3	C583	B2	C727	N1	C779	J1	IC515	A3
C131	K1	C231	I1	C439	H4	C525	E3	C584	B2	C728	N1	C780	J1	IC516	A3
C132	K1	C232	I1	C440	H4	C526	E3	C585	B2	C729	N1	C781	J1	IC517	A3
C133	K1	C233	I1	C441	H4	C527	E3	C586	B2	C730	N1	C782	J1	IC518	A3
C134	K1	C234	I1	C442	H4	C528	E3	C587	B2	C731	N1	C783	J1	IC519	A3
C135	K1	C235	I1	C443	H4	C529	E3	C588	B2	C732	N1	C784	J1	IC520	A3
C136	K1	C236	I1	C444	H4	C530	E3	C589	B2	C733	N1	C785	J1	IC521	A3
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C147	K1	C247	I1	C455	H4	C541	E3	C600	B2	C744	N1	C796	J1	IC532	A3
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C155	K1	C255	I1	C463	H4	C549	E3	C608	B2	C752	N1	C7A4	J1	IC540	A3
C156	K1	C256	I1	C464	H4	C550	E3	C609	B2	C753	N1	C7A5	J1	IC541	A3
C157	K1	C257	I1	C465	H4	C551	E3	C610	B2	C754	N1	C7A6	J1	IC542	A3
C158	K1	C258	I1	C466	H4	C552	E3	C611	B2	C755	N1	C7A7	J1	IC543	A3
C159	K1	C259	I1	C467	H4	C553	E3	C612	B2	C756	N1	C7A8	J1	IC544	A3

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L402	G2	L603	H3	R107	D6	R306	F5	R404	F3	R543	D3	R716	L2	R780	N6
L403	G2	L604	H3	R108	D6	R307	F5	R405	F3	R544	D3	R717	L2	R781	L6
L404	G2	L605	H3	R109	D6	R308	F5	R406	F3	R545	D3	R718	L2	R782	L6
L405	G2	L606	H3	R110	D6	R309	F5	R407	F3	R546	D3	R719	L2	R783	L6
L406	G2	L607	H3	R111	D6	R310	F5	R408	F3	R547	D3	R720	L2	R784	L6
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L434	G2	L635	H3	R139	D6	R338	F5	R436	F3	R575	D3	R748	L2	R7B2	L6
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L463	G2	L664	H3	R168	D6	R367	F5	R465	F3	R604	D3	R777	L2	R7E1	L6
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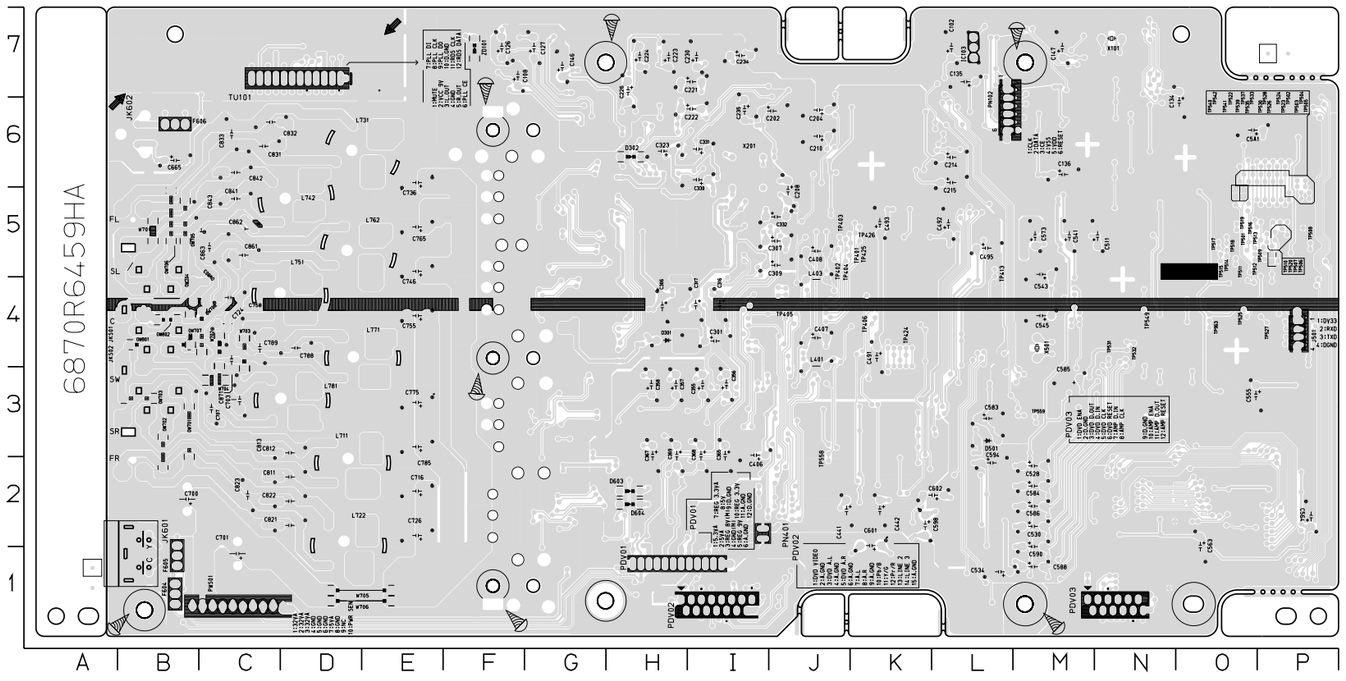

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MEMO

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TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-8001, JAPAN